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REMARKS

Reconsideration is requested.

Return of an initialed copy of the PTO 1449 Form filed June 23, 2003, is requested.

The specification has been amended to correct an inadvertent error in the sequence of SEQ ID NO:2. Specifically, six (6) of the 17 amino acids of SEQ ID NO:2 of the originally-filed application have now been recognized to be incorrect. The correct sequence was confirmed using methods similar to those described in the originally-filed specification for isolating and characterizing the xylanase inhibitor of the presently claimed invention.

A description of the correct sequence of SEQ ID NO:2 may be found the following publications:

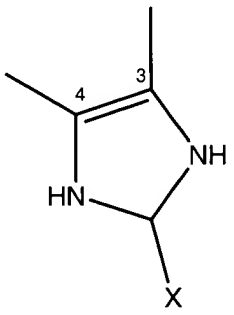
Gebruers, K., et al. "*Triticum aestivum* L. endocylanase inhibitor (TAXI) consists of two inhibitors, TAXI I and TAXI II, with different specificities" *Biochem J* **2001** *353* 239-244, a copy of which was submitted with the Information Disclosure Statement of June 23, 2003)[1];

Chapter IV from Gebruers, K, 2002 PhD Thesis; and

[1] The attached PTO 1449 Form lists documents discussed herein as well as references cited in the International Search Report (ISR) dated October 13, 1998 issued in connection with application PCT/EP98/02590. The applicants believe that, pursuant to MPEP § 609, the Examiner has considered the documents cited in the ISR and return of an initialed copy of the attached PTO 1449 Form listing the same, pursuant to MPEP § 609 will assure listing of these references on the face of any patent issuing from the present application. The Examiner is requested to contact the undersigned in the event anything further is required in this regard.

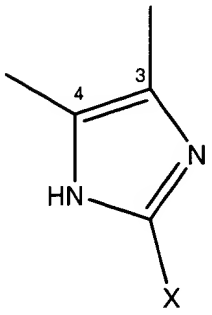
Gebruers, H., et al., "Properties of TAXI-type endoxylanase inhibitors" *BBA* **2004** *1696* 213-221 (attached as Appendix Q) (this paper presents an overview of different TAXI-inhibitors and describes in Figure 1, for example, the Forms A and B of the TAXI-type endoxylanase inhibitors).

The correction of SEQ ID NO:2 in the present application is not believed to introduce new matter. The Examiner is requested to see the attached copy of Ex parte Marsili, Rossetti ane Pasqualucci, 214 USPQ 904 (POBAI 1979) (see, Appendix F), in this regard.

The sole issue before the Board in Marsili was whether correction of a chemical structure introduced new matter. Specifically, according to the Board, Marsili's specification described the following imidazoline ring across the 3,4-position of the Riamycin-SV type structure: 

. "More refined" analytical investigation

showed that the ring in fact was and is the imidazole ring of the following structure:



. See, 214 USPQ 905.

In holding that the correction of the chemical structure did not enter new matter, the Board was convinced that the original description of the claimed product was sufficient to identify it or distinguish it patentably from prior art compounds. In reversing the Examiner's new matter rejection, the Marsili panel relied on In re Nathan et al., 140 USPQ 601 (1964), which held that a correction of a chemical structure (i.e., identifying a halo substituent of a steroid derivative as a being "alpha-oriented") was "merely a statement of an inherent property of the steroids as disclosed in applicants' original disclosure." 214 USPQ 906.

While the applicants in Marsili apparently submitted a Declaration in support of their correction of the error in the specification, such is not believed to be required in the present case. The attached subsequently published studies clearly indicate the error in the originally-filed description of the structure of SEQ ID NO:2 of the present application. As in the facts considered by the Marsili panel, the presently claimed products have been found to be patentable over the cited art and distinguishable from the cited art.

The structure of SEQ ID NO:2 is an inherent property of what is now referred to as TAXI II.

As advanced by Marsili in their appeal, the present applicants submit that the public as well as the applicants benefit from the above correction, and to deny the applicants the opportunity to correct the same benefits no one. Id.

The Sequence Listing has been amended to include the correct SEQ ID NO:2. The attached paper and computer readable copies of the Sequence Listing are the same. No new matter has been added. A separate Statement to this effect is attached.

Entry of the above amendments is requested.

Claims 48-57 and 65-68 are pending. A copy of the pending claims is provided in Appendix A.

Claims 48-50, 52-56 and 65-68 have been twice and/or finally rejected. Claims 51 and 57 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. See, page 4 of the Office Action dated November 17, 2003 (Paper No. 23).

The presently claimed invention provides isolated protein or glycoprotein inhibitors of xylanase. See, page 1, lines 11-23 and originally-filed claim 1.

The inhibitors of the presently claimed invention may be used, for example, in different areas of food, feed and/or beverage technologies, such as malting and brewing, the production of animal feedstuffs such as to increase their conversion, the

production of baked and/or extruded cereal products such as straight dough, sponge and dough and Chorleywood breads, breakfast cereals, different types of biscuits, pasta and noodles, and the production of starch derived syrups, sorbitol, xylose and/or xylitol. See, page 1, line 24 through page 2, line 7 of the application. The inhibitors may further be used, for example, to reduce syruping of refrigerated breads which is thought to be the result of deleterious breakdown of arabinoxylan, leading to a decrease in the water holding capacity of the dough over time caused by endogenous xylanases in wheat flour.

The presently claimed invention provides protein or glycoprotein inhibitors of xylanase which are described in the claims by various combinations of the following physical and/or chemical properties: (1) the claimed product is a protein or glycoprotein (see, for example, page 5, lines 9-10 of the specification, originally-filed claim 1 and all of the pending claims); (2) the claimed product is an inhibitor of xylanase (see, for example, page 5, lines 24-25 of the specification, originally-filed claim 2 and all the pending claims); (3) the claimed product is water-soluble (see, for example, page 5, line 25 of the specification, originally-filed claim 7 and all the pending claims); (4) the claimed product is alkaline (see, for example, page 5, line 25 of the specification, and all of the pending claims),; (5) the claimed product comprises an N-terminal amino acid sequence which is at least 70% homologous to SEQ ID NO:1 (see, for example, page 5, line 31 through page 6, line 5 and page 6, lines 11-16 of the specification, originally-filed claims 8 and 9, and independent claims 48 and 49, and claims 50-57 dependent there

from); (6) the claimed product has a pI of greater than about 7.0 (see, for example, page 5, lines 26-27 of the specification, originally-filed claim 15, and all the pending claims); (7) the claimed product, as exemplified by the wheat extract, has a molecular weight of about 40-43 kDa as measured by SDS-PAGE (see, for example, page 6, lines 11-13, originally-filed claims 14 and 15, and all the pending claims); (8) the claimed product, as exemplified by the wheat extract, resolves as two separate bands on SDS-PAGE after reduction with ß-mercaptoethanol (see, for example, page 6, lines 17-28 and page 19, line 14 through page 20, line16 of the specification, originally-filed claim 14 and independent claims 49, 65, 66, 67 and 68, and dependent claims 51, 53, 55 and 57); (9) the claimed product is obtainable from a cereal plant or a cereal plant fraction thereof (see, for example, page 5, lines 16-20, originally-filed claims 3-4, and independent claims 65-68 and dependent claims 52-57) and more specifically, from wheat (see, for example, page 5, lines 19-20 and pages 18-20 of the specification, originally-filed claim 4, independent claims 65, 66, and 67, and dependent claims 54, 55, 56 and 57), rye and barley (see, for example, page 5, lines 19-20 of the specification, originally-filed claim 4, independent claims 66, and 67, and dependent claims 54, 55, 56 and 57), and triticale, sorghum, oats, maize and rice (see, for example, page 5, lines 19-20 of the specification, originally-filed claim 4, independent claim 66, and dependent claims 54, 55, 56 and 57) and/or (10) the claimed product resolves as two separate bands on SDS-PAGE after reduction with ß-mercaptoethanol and the two separate bands comprise an amino acid sequence of SEQ ID NO:1 and

SEQ ID NO:2 (see, for example, page 5, line 29 through page 6, line 10, and page 20, lines 2-16 of the specification, originally-filed claim 8, and dependent claim 51).

The details of the claimed invention may be summarized, for example, in the following Table 1.

Table 1

Recitation of specification and claims noted above:	Claim No. [2]													
	48 I	49 I	50 D	52 D	53 D	54 D	55 D	56 D	65 I	66 I	67 I	68 I	51 O	57 O
(1) protein or glycoprotein	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(2) inhibitor of xylanase	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(3) water-soluble	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(4) alkaline	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(5)(i) N-terminal amino acid sequence which is at least 70% homologous to SEQ ID NO:1	X	X	X	X	X	X	X	X					X	X
(5)(ii) comprises amino acid sequence of SEQ ID NO:1			X					X					X	X
(6) pI of greater than about 7.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(7) Molecular weight of about 40-43 kDa as measured by SDS-PAGE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(8) resolves as two separate bands on SDS-PAGE after reduction with ß-mercaptoethanol w/m.w. of 30 & 10 kDa		X			X		X		X	X	X	X	X	X
(9)(i) cereal plant or a cereal plant fraction thereof				X	X	X	X	X		X	X	X		X
(9) (ii) wheat						X	X	X	X	X	X			X
(9) (iii) rye and barley						X	X	X		X	X			X
(9) (iv) triticale, sorghum, oats, maize and rice						X	X	X		X				X
(10) resolves as two separate bands on SDS-PAGE after reduction with ß-mercaptoethanol and the two separate bands comprise an amino acid sequence of SEQ ID NO:1 and SEQ ID NO:2													X	X

[2] "X" indicates presence of noted recitation; "I" indicates Independent claim; "D" indicates Dependent claim and "O" indicates claims which have only been objected to for being dependent on a rejected base claim but are believed to otherwise describe allowable subject matter

(A) Claims 48-50, 52-56 and 65-68 are submitted to be supported by an adequate written description, as required by 35 U.S.C. § 112, first paragraph. Reconsideration and withdrawal of the Section 112, first paragraph, rejection of claims 48-50, 52-56 and 65-68 are requested.

(B) The applicants submit that one of ordinary skill in the art could make and use the invention of claims 48-50, 52-56 and 65-68 without requiring an undue amount of experimentation, as required by 35 U.S.C. § 112, first paragraph. Reconsideration and withdrawal of the Section 112, first paragraph, rejection of claims 48-50, 52-56 and 65-68 are requested.

(A) The invention of claims 48-50, 52-56 and 65-68 is adequately described by the present application. Withdrawal of the Section 112, first paragraph, rejection of claims 48-50, 52-56 and 65-68 is requested in view of the following.

As briefly detailed above, the present application describes the claimed xylanase inhibitors with reference to physical and chemical characteristics. Moreover, the xylanase inhibitors of the claimed invention are exemplified by a description in the Examples of the specification. The exemplified inhibitors include inhibitors from wheat,

barley and rye (i.e., "WF" or wheat flour, "RF" or rye flour, and "BWM" or barley whole meal, extracts; see, page 21, lines 19-24, for example).

In further characterizing the wheat extract, the applicants described, as a species of their invention, a xylanase inhibitor which contains a specific N-terminal amino acid sequence (i.e., a 14 amino acid sequence of SEQ ID NO:1[3] which was discovered in the wheat species of the invention). The applicants further describe their invention as xylanase inhibitors which include N-terminal amino acid sequences which, along with the other claimed identifying characteristics, are 70% homologous to SEQ ID NO:1 (see, page 6, lines 11-16, for example, of the specification).

Moreover, the applicants have described the wheat extract species as containing a further specific amino acid sequence (i.e., a 17 amino acid sequence of SEQ ID NO:2) which was accessible to sequencing after ß-mercaptoethanol reduction of the wheat species. See, page 20, lines 2-16, for example, of the specification.

The Examiner has previously asserted that the specification allegedly fails to describe "any xylanase inhibitor comprising any amino acid sequence that is at least 70% or 85% identical to SEQ ID NO:1 or SEQ ID NO:2". See, page 2 of the Office Action dated July 15, 2002. The Examiner was believed to have been convinced in the Examiner interview of August 7, 2003 that the applicants had adequately described xylanase inhibitors which contained an N-terminal sequence which was at least 70%

[3] SEQ ID NO:1 contains 14 amino acids which includes as amino acid 14 an Xaa which is preferably Asp. See, page 20, lines 6-8, for example, of the specification.

homologous to SEQ ID NO:1. The undersigned also believed that the Examiner was also of the opinion during the interview that the specification allegedly only described xylanase inhibitors which not only included an N-terminal sequence which was at least 70% homologous to SEQ ID NO:1 but also required inclusion of SEQ ID NO:2.

The Examiner has however more recently asserted in the final rejection of Paper No.23, that

> "The specification fails to provide a written description of a genus or class of the claimed proteins or glycoproteins which is expected to be highly variant other than the inhibitor comprising the amino acid sequences of SEQ ID NO:1 and SEQ ID NO:2 which is water soluble, alkaline protein or glycoprotein with a molecular weight of 40-43 kDa and pI of greater than about 7.0." See, page 2 of Paper No. 23.

The Examiner is understood therefore to believe that the specification only describes, within the requirements of 35 USC § 112, first paragraph, xylanase inhibitors which include SEQ ID NOs: 1 and 2.

The Examiner's assertion that the specification allegedly only describes xylanase inhibitors containing SEQ ID NOs: 1 and 2 is inappropriate in that the Examiner's view of the specification focuses only on the exemplified embodiment of the wheat xylanase inhibitor and fails to acknowledge the separate exemplifications of the barley and rye inhibitors of the examples as well as the broader description of the genus of inhibitors of the specification.

Reversal of the Section 112, first paragraph "written description", rejection is requested and consideration of the following and attached are requested in this regard.

The Examiner believes that the specification describes xylanase inhibitors containing properties or characterizing factors (1), (2), (3), (4), (6), and (7) of Table 1 above but also believes the inhibitors are described in so far as they also include SEQ ID NOs: 1 and 2 (i.e., property or characterizing factor (5)(ii) and a recitation of SEQ ID NO:2).

The present application exemplifies wheat, barley and rye xylanase inhibitors, as noted above. The application further includes the following description of the claimed inhibitors:

> "According to a preferred embodiment of the present invention, the inhibitor is a xylanase inhibitor which is typically water-soluble alkaline proteinaceous species, having a pI (i.e. -log of the isoelectric point) of greater than about 7.0. The xylanase inhibitor molecular weight as determined by SDS-page is typically 40-43 kDa." See, page 5, lines 23-28 of the specification.

Moreover, the inhibitors of the invention are separately described in the specification as follows:

> "The N-terminal sequence of the 40-43 kDa protein or glycoprotein has not been described until now and is typically as follows: SEQ ID No. 1: Lys-Gly-Leu-Pro-Val-Leu-Ala-Pro-Val-Thr-Lys-Xaa-Thr-Ala, wherein Xaa being preferably Asp. ... Therefore, the present invention is also related to an inhibitor with an SDS-page molecular weight of typically 40-43 kDa being a protein or glycoprotein having a marker whose amino acid sequence has more than 70% homology, preferably more than 85% homology, more preferably is identical with SEQ ID No. 1." See, page 5, line 31 through page 6, line 3 and page 6, lines 11-16 of the specification (emphasis added).

Accordingly, the specification describes xylanase inhibitors containing an N-terminal amino acid sequence which is at least 70% homologous to SEQ ID NO:1 and exemplifies a wheat xylanase inhibitor which contains an N-terminal amino acid sequence of SEQ ID NO:1. The applicants submit therefore that the alternative recitations of property or characterizing factors (5)(i) or (9)(i) of the above Table 1 are adequate to sufficiently describe the N-terminal sequence of presently claimed and disclosed invention.

As noted above, the present specification teaches that embodiments of the claimed inhibitors are present in both barley (BWM) and rye (RF) (see page 20, line 18 to page 21, line 24, and in particular to line 1 of page 21, of the specification). Thus, the present invention not only teaches for the first time the fact that proteinaceous xylanase inhibitors are present in plants (and in particular cereals), but also teaches the isolation of such an inhibitor from wheat and characterization of same, including providing the N-terminal amino acid sequence of this inhibitor, i.e., SEQ ID NO: 1. The present specification further teaches that the claimed inhibitors are obtainable from, for example, rye and barley and specifically teaches that extracts of these cereals clearly demonstrate xylanase inhibition.

As an example, the applicants note that the specification describes and the applicants have claimed inhibitors obtainable from barley. Such an inhibitor is specifically disclosed in WO01/98474 (copy previously submitted with the applicants' Amendment of June 26, 2003 and listed on the PTO 1449 Form filed June 26, 2003,

return of an initialed copy of which, pursuant to MPEP § 609, is again requested, the U.S. national phase of which has been assigned U.S. Serial No. 10/311,886. The barley inhibitor (designated HvXI in the attached WO document) specifically described therein comprises an N-terminal amino acid which is 78.6% homologous[4] with that of SEQ ID NO:1 of the present application.

The applicants have also determined that the isolated barley and rye xylanase inhibitors do not contain SEQ ID NO:2.

The identification of the barley xylanase inhibitor in the present application and subsequent elucidation of the sequence therefor serves as evidence that a further species of the presently claimed genus or subgenus exists, as described and enabled by the present specification.

Moreover, with specific regard to the claimed recitation of the claimed inhibitor having an N-terminal amino acid sequence which is at least 70% homologous to SEQ ID NO:1, the barley sequence serves as evidence that a xylanase inhibitor, as claimed,

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[4] Homology calculated using:
http://searchlauncher.bcm.tmc.edu/seq-search/alignment.html
Results of SIM with:
Sequence 1: HvXI 30, KALPVLAPVTKDAATSLYTI (20 residues)
Sequence 2: TAXI 30N, KGLPVLAPVTKXTA (14 residues (SEQ ID NO:1 of present application)
using the parameters:
Comparison matrix: BLOSUM62
Number of alignments computed: 20
Gap open penalty: 12
Gap extension penalty: 4
78.6% identity in 14 residues overlap; Score: 52.0; Gap frequency: 0.0%
HvXI 30, 1 KALPVLAPVTKDAA
TAXI 30N, 1 KGLPVLAPVTKXTA

having an N-terminal amino acid sequence which is at least 70% homologous to SEQ ID NO:1, was described, and enabled, by the present specification and has been identified by a skilled person following the teachings of the present specification.

The applicants further submit that the recited N-terminal sequence having a percent homology of at least 70% to SEQ ID NO:1 is supported by an adequate written description.

Specifically, the Examiner is requested to appreciate that SEQ ID NO:1 is 14 amino acids in length. It is well-known in the present art to describe protein sequences by a relative percent homology or identity to a base sequence. Such descriptions, and the desire for a simple means to make such calculations, led to the development and ready availability of, for example, the BESTFIT program.[5]

The U.S. Patent Office has granted at least 7 patents wherein the term "percent homology" is recited in a claim in the biotechnology area. Moreover, the Patent Office has granted at least 20 patents wherein the term BESTFIT is recited as an example of calculation of the identity or homology in the biotechnology area.[6]

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[5] A list of the first 500 of 892 U.S. Patents issued from 1976 to a recent search which include the words BESTFIT and protein were previously submitted as Appendix A to the Amendment filed August 29, 2003 as an indication of the prevalence of the terms in the field of biotechnology. Each of the listed patents has not been reviewed in detail to assure the context in the listed patent is the same as used in the claims which are the subject of the present appeal. See, Appendix B attached to the Amendment filed August 29, 2003 for a description of the BESTFIT program.

[6] Appendix C attached to the Amendment filed August 29, 2003 provides a list of the noted 27 patents, representative claims of each patent with the noted recitation and, in italics, the description of the relevant portions of the specification of each listed patent which describes the use of percent homology or the BESTFIT program as being routine. Many of these patents were granted to Human Genome Sciences and contain the same or very similar, limited "boiler plate" text which is repeated in multiple applications.

The present specification provides a functional and a structural description of the claimed inhibitors. The structural similarity of the proteins of the present claims, which reference a percent homology and a base comparison sequence, will be appreciated by one of ordinary skill in the art and has been recognized by the Patent Office (see, previously submitted and above-noted appendices) as providing an adequate written description of amino acid sequences.

The Patent Office's "current understanding... regarding the written description requirement of 35 U.S.C. 112, ¶1" (see, 66 FR 1099, Friday, January 5, 2001 (copy attached as Appendix D to the Amendment filed August 29, 2003) states that

> "An applicant may show possession of an invention by disclosure of drawings[39] or structural chemical formulas[40] that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. The description need only describe in detail that which is new or not conventional.[41] This is equally true whether the claimed invention is directed to a product or a process.
>
> An applicant may also show that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics[42] which provide evidence that applicant was in possession of the claimed invention,[43] i.e., complete or partial structure, other physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics.[44] What is conventional or well-known to one of ordinary skill in the art need not be disclosed in detail.[45] If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met.[46]" Id. at 1106.

The indicated footnotes 39-46 further support this "understanding" of the Patent Office based on Federal Circuit, CCPA and other case law as follows:

> [39]*See, e.g., Vas-Cath*, 935 F.2d at 1565, 19 USPQ2d at 1118 ("drawings alone may provide a 'written description' of an invention as required by § 112"); *In re Wolfensperger*, 302 F.2d 950, 133 USPQ 537 (CCPA 1962) (the drawings of applicant's specification provided sufficient written descriptive support for the claim limitation at issue); *Autogiro Co. of America v. United States*, 384 F.2d 391, 398, 155 USPQ 697, 703 (Ct. Cl. 1967) ("In those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification.").
>
> [40]*See e.g., Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406 ("In claims involving chemical materials, generic formulae usually indicate with specificity what the generic claims encompass. One skilled in the art can distinguish such a formula from others and can identify many of the species that the claims encompass. Accordingly, such a formula is normally an adequate description of the claimed genus.").
>
> [41]*See Hybritech v. Monoclonal Antibodies*, 802 F.2d at 1384, 231 USPQ at 94; *Fonar Corp. v. General Electric Co.*, 107 F.3d at 1549, 41 USP!2d at 1805 (source code description not required).
>
> [42]For example, the presence of a restriction enzyme map of a gene may be relevant to a statement that the gene has been isolated. One skilled in the art may be able to determine when the gene disclosed is the same as or different from a gene isolated by another by comparing the restriction enzyme map. In contrast, evidence that the gene could be digested with a nuclease would not normally represent a relevant characteristic since any gene would be digested with a nuclease. Similarly, isolation of an mRNA and its expression to produce the protein of interest is strong evidence of possession of an mRNA for the protein.
>
> For some biomolecules, examples of identifying characteristics include a sequence, structure, binding affinity, binding specificity, molecular weight, and length. Although structural formulas provide a convenient method of demonstrating possession of specific molecules, other identifying characteristics or

combinations of characteristics may demonstrate the requisite possession. For example, unique cleavage by particular enzymes, isoelectric points of fragments, detailed restriction enzyme maps, a comparison of enzymatic activities, or antibody cross-reactivity may be sufficient to show possession of the claimed invention to one of skill in the art. *See Lockwood*, 107 F.3d at 1572, 41 USPQ2d at 1966 ("written description" requirement may be satisfied by using" such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention").

[43]A definition by function alone "does not suffice" to sufficiently describe a coding sequence "because it is only an indication of what the gene does, rather than what it is." *Eli Lilly*, 119 F.3 at 1568, 43 USPQ2d at 1406. *See also Fiers*, 984 F.2d at 1169-71, 25 USPQ2d at 1605-06 (discussing *Amgen Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991)).

[44]If a claim limitation invokes 35 U.S.C. 112, ¶ 6, it must be interpreted to cover the corresponding structure, materials, or acts in the specification and "equivalents thereof." See 35 U.S.C. 112, ¶ 6. See also *B. Braun Medical, Inc. v. Abbott Lab.*, 124 F.3d 1419, 1424, 43 USPQ2d 1896, 1899 (Fed. Cir. 1997). In considering whether there is 35 U.S.C. 112, ¶ 1, support for a means- (or step) plus-function claim limitation, the examiner must consider not only the original disclosure contained in the summary and detailed description of the invention portions of the specification, but also the original claims, abstract, and drawings. A means- (or step-) plus-function claim limitation is adequately described under 35 U.S.C. 112, ¶ 1, if: (1) The written description adequately links or associates adequately described particular structure, material, or acts to the function recited in a means- (or step-) plus-function claim limitation; or (2) it is clear based on the facts of the application that one skilled in the art would have know what structure, material, or acts perform the function recited in a means- (or step-) plus- function limitation. Note also: A rejection under 35 U.S.C. 112, ¶ 2, "cannot stand where there is adequate description in the specification to satisfy 35 U.S.C. 112, first paragraph, regarding means-plus-function recitations that are not, per se, challenged for being unclear." *In re Noll*, 545 F.2d 141, 149, 191 USPQ 721, 727 (CCPA 1976). See *Supplemental Examination Guidelines for Determining the Applicability* of 35 U.S.C. 112, ¶ 6, 65 FR 38510, June 21, 2000.

> [45]See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d at 1384, 231 USPQ at 94.
>
> [46]*See, e.g., Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1116; *Martin v. Johnson*, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) (starting "the description need not be in *ipsis verbis* (i.e., "in the same words"] to be sufficient")." Id. at 1109-1110. (Emphasis added.)

As noted above in footnote 40, the Patent Office confirms that the court in *Eli Lilly* found that claims involving generic formula usually indicate with specificity what the generic claims encompass. The court confirmed that one of ordinary skill in the art can usually distinguish such a formula from others and can identify many of the species that the claims encompass. Given these facts, the *Eli Lilly* court concluded that "such a formula is normally an adequate written description." The Patent Office reliance on *Lockwood* above is also of particular relevance.

In the present application, the applicants have described, and recited in the claims, a protein or glycoprotein, which is an inhibitor of xylanase, which is water soluble, which is an alkaline protein or glycoprotein, which has a pI of greater than about 7.0, and which has a molecular weight of about 40-43 kDa as measured by SDS-PAGE. The claimed protein or glycoprotein is further described in the claims by reference to an N-terminal amino acid sequences and a percent identity which allows one of ordinary skill to distinguish the generic formula of the claims from other protein sequences. One of ordinary skill can identify many species that the claims encompass. Given the conclusions of the *Eli Lilly* court, the applicants respectfully submit that the

generic formula of the claims and the specification provide an adequate written description of the claimed invention.

The issue before the *Eli Lilly* court, which was not mentioned in the footnote of the Patent Office's "written description" analysis, was whether even more generic statements, "such as 'vertebrate insulin cDNA' or 'mammalian insulin cDNA', without more," is an adequate' written description. See, 43 USPQ2d 1406 (emphasis added).

The *Eli Lilly* court found that such a generic recitation was not an adequate written description.

> "because it does not distinguish the claimed genus from others except by function. It does not specifically define any of the genes that fall within its definition. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicated, does not suffice to define the genus because it is only an indication of what the gene does, rather than what it is. *See Fiers*, 984 F.2d at 1169-71, 25 USPQ2d at 1605-06 (discussing *Amgen*)." Id.

As noted above, the claims of the present application recite a reference sequence and a percent identity, as well as a molecular weight and other distinguishing features which allow one of ordinary skill to distinguish the protein of the claimed invention from other proteins.

The applicants respectfully submit that the present specification demonstrates possession of the claimed invention by, for example, disclosure of reference sequence

(i.e., SEQ ID NO: 1) and the distinguishing features coupled with the functional characteristics recited in the claims. An ordinarily skilled artisan would have understood that the appellants were in possession of the claimed invention at the time of filing.

Beyond the Patent Office "understanding" of the requirements of the Section 112, first paragraph, written description, requirement, as detailed above, the Patent Office has issued Training Materials

> "designed to aid PTO's patent examiners in applying the interim written description... guidelines in a uniform and consistent manner to promote the issuance of high quality patents. The training materials will also assist patent applicants in responding to the PTO when... written description issues are raised during the examination of a patent application." See, Press Release #00-15, USPTO, March 1, 2000 (www.uspto.gov/web/offices/com/speeches/00-15.html) (copy attached as Appendix E to the Amendment filed August 29, 2003).

The Written Description Training Materials (http://www.uspto.gov/web/offices/pac/writtendesc.pdf) offer the following Example 14 "Product by Function":

> **"Example 14: Product by Function**
> **Specification:** The specification exemplifies a protein isolated from liver that catalyzes the reaction of **A→ B.** The isolated protein was sequenced and was determined to have the sequence as set forth in SEQ ID NO: 3. The specification also contemplates but does not exemplify variants of the protein wherein the variant can have any or all of the following:
> substitutions, deletions, insertions and additions. The specification indicates that procedures for making proteins with substitutions, deletions, insertions and additions is routine in the art and provides an assay for detecting the catalytic activity of the protein.
> **Claim:**

A protein having SEQ ID NO: 3 and variants thereof that are at least 95% identical to SEQ ID NO: 3 and catalyze the reaction of A →B.

Analysis:

A review of the full content of the specification indicates that a protein having SEQ ID NO: 3 or variants having 95% identity to SEQ ID NO: 3 and having catalytic activity are essential to the operation of the claimed invention. The procedures for making variants of SEQ ID NO: 3 are conventional in the art and an assay is described which will identify other proteins having the claimed catalytic activity. Moreover, procedures for making variants of SEQ ID NO: 3 which have 95% identity to SEQ ID NO: 3 and retain its activity are conventional in the art. A review of the claim indicates that variants of SEQ ID NO: 3 include but are not limited to those variants of SEQ ID NO: 3 with substitutions, deletions, insertions and additions; but all variants must possess the specified catalytic activity and must have at least 95% identity to the SEQ ID NO: 3.

Additionally, the claim is drawn to a protein which **comprises** SEQ ID NO: 3 or a variant thereof that has 95% identity to SEQ ID NO: 3. In other words, the protein claimed may be larger than SEQ ID NO: 3 or its variant with 95% identity to SEQ ID NO: 3. It should be noted that "having" is open language, equivalent to "comprising". The claim has two different generic embodiments, the first being a protein which comprises SEQ ID NO: 3 and the second being variants of SEQ ID NO: 3. There is a single species disclosed, that species being SEQ ID NO: 3.

A search of the prior art indicates that SEQ ID NO: 3 is novel and unobvious. There is actual reduction to practice of the single disclosed species.

The specification indicates that the genus of proteins that must be variants of SEQ ID NO: 3 does not have substantial variation since all of the variants must possess the specified catalytic activity and must have at least 95% identity to the reference sequence, SEQ ID NO: 3. The single species disclosed is representative of the genus because all members have at least 95% structural identity with the reference compound and because of the presence of an assay which applicant provided for identifying all of the at least 95% identical variants of SEQ ID NO: 3 which are capable of the specified catalytic activity. One of skill in the art would conclude that applicant was in possession of the necessary common attributes possessed by the members of the genus.

> **Conclusion:** The disclosure meets the requirements of 35 USC §112 first paragraph as providing adequate written description for the claimed invention.

The claims at issue in the present application relate to a protein or glycoprotein inhibitor which may be obtainable from a cereal plant or fraction thereof, such as from wheat, rye, triticale, barley, sorghum, oats, maize and rice. The "catalytic activity" described in the above-quoted Example 14 may be seen as analogous to the functional recitations in the present claims, as noted above. Moreover, the present claims further describe the claimed inhibitor by reference to a characteristic molecular weight. The "SEQ ID NO: 3" of the above quoted Example 14, may be seen as analogous to the SEQ ID NO: 1 of the pending claims. Finally, the "variants of the protein" discussed in the above-quoted Example 14 exemplifies the proteins of the presently claimed invention which contain an N-terminal amino acid sequence with is at least 70% homologous to SEQ ID NO:1. As with the above-quoted Example 14, the applicants submit that methods of making and identifying and testing proteins of the claimed genus are well know and would not require undue experimentation from the teachings of the specification and the generally advanced level of skill in the art.

The Patent Office's analysis and "understanding" of the "written description" requirements of 35 U.S.C. § 112, first paragraph, and assistance to examiners and applicants in applying the law, as expressed through the Training

Materials, all support the applicants belief that the presently claimed invention is supported by an adequate written description.

Withdrawal of the 35 U.S.C. § 112, first paragraph "written description", rejection of claims 48-50, 52-56 and 65-68 is requested.

(B) The invention of claims 48-50, 52-56 and 65-68

is supported by an enabling disclosure. One of ordinary skill in the art could use the current disclosure, with the generally advanced knowledge of the art, to make and use the claimed invention, without undue experimentation. Consideration of the following in this regard and withdrawal of the Section 112, first paragraph "enablement", rejection of claims 48-50, 52-56 and 65-68, are requested.

The applicants submit that the specification enables one of ordinary skill in the art to make and use the claimed invention. The Examiner is requested to see, for example, the above description and discussion regarding the applicants elucidation of the barley and rice xylanase inhibitors.

The Examiner alleges that an undue amount of experimentation would be required to make the presently claimed invention based on the Examiner's belief that

> "Since routine experimentation does not include screening a vast number of organisms for a specific organism which contains the claimed protein or glycoprotein r [sic] which is able to inhibit xylanase enzyme activity, where the expectation of identifying any of the claimed protein or glycoprotein inhibitor is unpredictable, the

> Examiner finds that one skill in the art would require additional guidance, such as the specific amino acid sequence of the claimed protein or glycoprotein. Without such guidance, the experimentation left to those skilled in the art is undue." See, page 3 of Paper No. 23.

The applicants respectfully submit however that to "screen" organisms does not require undue amounts of experimentation, especially in light of the methods exemplified in the present specification. While the amount of work may be extensive, depending on the number of "organisms" to be screened (claims 52, 53 and 68 only require "screening" cereals; claims 54-56 and 68 only require "screening" wheat, rye, barley, triticale, sorghum, oats, maize and rice; claim 67 only requires "screening" wheat, barley and rice; and claim 65 only requires "screening" wheat), the experimentation is routine. Moreover, the applicants respectfully submit that a "vast" number of organisms are not required to be screened. The applicants have described and claimed xylanase inhibitors from cereals, and specifically from wheat, rye, triticale, barley, sorghum, oats, maize and rice, such that further species within the claimed genus could be obtained by "screen[ing]" a relatively small number of "organisms". Finally, the applicants respectfully submit that it is just as likely that the ordinarily skilled person reading the present application would "screen" for xylanase inhibitor activity of protein and/or glycoprotein extracts and then identify or characterize the pI and molecular weight and N-terminal amino acid sequence, thereby reducing the uncertainty and amount of work required according to the Examiner's scenario (i.e., "and

determining whether the protein or glycoprotein is still able to inhibit ..." see, page 3 of the Office Action dated March 26, 2003 (Paper No. 18) (emphasis added)).

The present specification is submitted to provide more than adequate guidance for one of ordinary skill to make and use the claimed invention.

The above-described barley sequence and previously submitted WO publication are evidence that a species within the genus of the present claims could be made from the description of the present application.

The present specification describes methods of extracting inhibitors of the claimed genus. See, pages 11-15 of the application. The application describes methods of determining molecular weights and isoelectrofocusing. See, page 15 of the application. The present specification describes methods of determining the N-terminal amino acids sequence of proteins of the invention. See, page 15 of the present specification. The present application describes evidence of the presence of endoxylanase inhibitors in wheat. See, pages 16-20 of the specification. Finally, the specification exemplifies the use of a xylanase inhibitor of the invention. See, pages 20-21 of the specification. The specification therefore provides evidence of the ability of one of ordinary skill in the art to make and use the claimed invention.

The specification teaches one of ordinary skill in the art how to make and use the claimed invention.

For completeness, the applicants note that according to the Court in In re Armbruster, 185 USPQ 152 (CCPA 1975) (copy attached as Appendix B), the CCPA

"has made it clear that the Patent and Trademark Office must substantiate its rejection for lack of enablement with reasons. Worth repeating is the following statement from In re Marzocchi, 58 CCPA 1069, 439 F.2d 220, 169 USPQ 367, 369-370 (1971):

> The only relevant concern of the Patent Office under these circumstances should be over the truth of any such assertion. The first paragraph of § 112 requires nothing more than objective enablement. How such a teaching is set forth, either by the use of illustrative examples or by broad terminology, is of no importance.
>
> As a matter of Patent Office practice, then, a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. Assuming that sufficient reason for such doubt does exist, a rejection for failure to teach how to make and/or use will be proper on that basis; such a rejection can be overcome by suitable proofs indicating that the teaching contained in the specification is truly enabling.
>
> * * * it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure. [Emphasis in original and footnote deleted.] Accord, In re Dinh-Nguyen, 492 F.2d 856, 181 USPQ 46 (CCPA 1974); In re Bowen, 492 F.2d 859, 181 USPQ 48 (CCPA 1974).

> Section 112 does not require that a specification convince persons skilled in the art that the assertions therein are correct. In re Robins, 57 CCPA 1321, 429 F.2d 452, 166 USPQ 552 (1970).

The Armbruster Court has also provided the following further examples of the Patent Office's burden in establishing an alleged lack of enabling disclosure. In re Anderson, 176 USPQ 331 (CCPA 1973) (copy attached as Appendix C), involved, according to the Armbruster Court, claims to a surgical dressing comprising a laminated dressing of a primary layer, which is readily soluble in plasma, and a secondary layer in face-adhering contact with the primary layer also soluble in plasma, but to a lesser extent. In response to the Patent Office's assertion that the major part of the specification was directed to a laminate in which the primary layer was hemostatic, the court said, 176 USPQ at 333:

> It is quite true that the *major part* of appellant's specification is a disclosure of a primary layer having hemostatic properties[,] but in determining what is disclosed we cannot restrict our consideration to the *major part* of the disclosure. Appellant is clearly entitled to have the *whole* of his disclosure considered. We have already adverted to the *abstract* and to original claim 1, *both* of which make clear that appellant did not regard his invention as limited to a hemostatic primary layer. His broad disclosures do not refer to the hemostatic property at all. [Emphasis supplied by Armbruster Court.]

The Armbruster Court asserted that Anderson affirms the requirement that the whole of the specification, including the abstract, must be reviewed, and may be relied upon for enabling support. The present applicants submit that the present Examiner's

apparent reliance on only the Examples of the present specification is contrary to the holdings of Anderson and affirmation of Armbruster.

The Armbruster Court further detailed the facts and holding in In re Coleman, 176 USPQ 522 (CCPA 1973) (copy attached as Appendix D), wherein Armbruster Court summarized the Coleman invention as involving a flexible conduit comprising a suitable elastic adhesive material between the metal hose and a plastic jacket. The sole issue on appeal according to the Armbruster Court was enablement with respect to the nature of the adhesive material, described in the claims by certain properties. The specification according to the Armbruster Court provided a generic disclosure couched in terms of the properties recited in the claims and a more specific disclosure of the preferred adhesive materials described by reference to trademark and trade name designations. In reversing the Patent Office the Colman Court stated, 176 USPQ at 524:

> In reviewing the rejection before us, we have appropriately looked to the disclosure in its *entirety* and have arrived at a conclusion which is necessarily to some extent subjective. * * * we find ourselves confronted with no adequate justification for denying appellant patent protection of the scope sought.
>
> The board's opinion focuses too narrowly on the listing of specific materials by trademark or trade name. We stress the need to inject the *totality* of the disclosure into the examination for sufficiency under § 112 of this specification. [Emphasis supplied by Armbruster Court.]

The Armbruster Court further reviewed In re Mayhew, 179 USPQ 42 (CCPA 1973) (copy attached as Appendix E), involved, according to the Armbruster Court, an

apparatus for continuous-strip molten metal coating operations wherein a preheated continuous strip of metal is passed through a bath of molten metal. The claims, according to the Armbruster Court, recited a cooling means within the bath, and the Patent Office rejected the claims for lack of enablement in not specifying that the cooling means had to be adjacent the exit side of the bath. The specification broadly indicated that a cooling means was located in the bath; the specification did not state specifically that the cooling means could be located anywhere, and no specific embodiments described the location of the cooling means other than adjacent the exit side of the bath. In reversing the Patent Office, the Armbruster Court noted that the Mayhew court found that there was nothing in the specification to indicate that the cooling had to be adjacent the exit side of the bath; that the description in the specification of the cooling means at the exit side of the bath was merely a preferred embodiment; and that the Patent Office failed to substantiate its rejection with evidence or reasoning that location of the cooling means at a point other than the exit side of the bath would not achieve the desired result.

The Examiner in the present case has apparently expressed doubt concerning the ability of one of ordinary skill in the art to make and use the invention which do not include a recitation of SEQ ID NOs: 1 and 2. The justification for this doubt is the Examiner's assessment that the practice of the invention would allegedly require an undue amount of experimentation. The applicants submit that the Examiner has not adequately reviewed the specification in its entirety, as required by the Courts.

Moreover, the Examiner has failed to substantiate his rejection with evidence or reasoning that the claimed invention could not be used, with a reasonable amount of experimentation, to achieve the disclosed and desired results.

There is nothing in the specification, or the generally advanced level of skill in the art, which justifies the doubts of the Examiner over the sufficiency of the specification to enable one of ordinary skill in the art to make and use the claimed invention. Claim 48-50, 52-56 and 65-68 are submitted to be supported by an enabling disclosure and reversal of the Section 112, first paragraph "enablement", rejection of the same is requested.

In conclusion, the application is submitted to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

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LIST OF APPENDICES

APPENDIX	CONTENTS
A	Pending Claims
B	In re Armbruster, 185 USPQ 152 (CCPA 1975)
C	In re Anderson, 176 USPQ 331 (CCPA 1973)
D	In re Coleman, 176 USPQ 522 (CCPA 1973)
E	In re Mayhew, 179 USPQ 42 (CCPA 1973)
F	Ex parte Marsili, Rossetti ane Pasqualucci, 214 USPQ 904 (POBAI 1979)

Court of Customs and Patent Appeals

In re Armbruster

No. 75-514 Decided Mar. 27, 1975

PATENTS

1. Pleading and practice in Patent Office — Rejections (§54.7)

Specification — Sufficiency of disclosure (§62.7)

Specification which "describes" does not necessarily also "enable" one skilled in the art to make or use claimed invention; however, rejection for lack of enablement under first paragraph of 35 U.S.C. 112 must be substantiated with reasons; section 112 does not require that specification convince persons skilled in the art that assertions therein are correct.

2. Court of Customs and Patent Appeals — Dismissing and remanding (§28.15)

Court of Customs and Patent Appeals — Issues determined — Ex parte patent cases (§ 28.203)

On appeal to court, solicitor cannot raise new ground of rejection or apply a new rationale to support rejection based upon a patent of record which was not relied on below; new grounds of rejection may be applied in further proceedings before Patent and Trademark Office referred to in 35 U.S.C. 144.

3. Specification — Claims as disclosure (§62.3)

Specification — Sufficiency of disclosure (§62.7)

While Patent Office Rule 72(b) indicates that abstract should not be used for interpreting scope of claims, it does not state that abstract is not part of specification; there is no distinction for purposes of 35 U.S.C. 112 between abstract and claims as originally filed, which have always been considered part of original disclosure; court adheres to its position in In re Anderson, 176 USPQ 331, that abstract is embraced by "specification" for purposes of a rejection under first paragraph of section 112.

4. Affidavits — In general (§12.1)

Applicant's affidavit reciting experiments and comparative results can be considered in demonstrating objective enablement since affidavit is being employed only to demonstrate that teaching in specification is enabling, not to add information to specification.

Particular patents—Starch Conversion

3,560,343, Armbruster, Low D.E. Starch Conversion Products, rejection of claims 45 to 51 and 53 to 55 of reissue application reversed.

Appeal from Board of Appeals of the Patent and Trademark Office.

Application for patent of Frederick C. Armbruster, Serial No. 327,335, filed Jan. 29, 1973, for reissue of Patent No. 3,560,343, issued Feb. 2, 1971; Patent Office Group 172. From decision rejecting claims 45 to 51 and 53 to 55, applicant appeals. Reversed.

Keith V. Rockey and Albert P. Halluin (Frank E. Robbins of counsel) all of Chicago, Ill., for appellant.

Joseph F. Nakamura (Gerald H. Bjorge of counsel) for Commissioner of Patents.

Before Markey, Chief Judge, and Rich, Baldwin, Lane, and Miller, Associate Judges.

Miller, Judge.

This appeal is from a decision of the Patent and Trademark Office Board of Appeals, affirming the rejection of claims 45-51 and 53-55 under 35 U.S.C. 112, first paragraph, in application serial No. 327,335, filed January 29, 1973, for reissue of patent No. 3,560,343, issued February 2, 1971, for "Low D.E. Starch Conversion Products." Claims 1-9 and 32-44 have been allowed, and claim 52 has been indicated allowable if rewritten in independent form. We *reverse.*

The Invention

Sugars, such as dextrose, may be obtained from starches by breaking up large starch molecules through acid and/or enzymatic hydrolysis. Products of such hydrolysis are known as hydrolysates. The extent of hydrolysis is measured by the parameter D.E.—dextrose equivalent, calculated as dextrose and based on the total dry substance. A low D.E. value means little hydrolysis (breakup) has occurred. Appellant's invention involves a particular process for producing a low D.E. starch hydrolysate in the range of about 10 to about 25; the contested step under 35 U.S.C. 112 involves initial acid hydrolysis of the starch "to a D.E. less than about 15."[1] Claim 45 is illustrative (emphasis supplied):

A process for producing a haze-free low D.E. starch hydrolysate which comprises:

[1] The Patent and Trademark Office concedes enablement of 5 to 15 and only attacks less than 5.

1) treating a starch-water slurry with an acid above the gelatinization temperature of the starch to solubilize and hydrolyze the starch *to a D.E. less than about 15,*

2) treating the acid hydrolyzed starch with bacterial alpha-amylase to increase the D.E. by at least about 5 and to obtain a starch hydrolysate product having a D.E. in the range of from about 10 to about 25,

3) stopping the conversion action of the bacterial alpha-amylase, and

4) recovering the hydrolysate so produced.

"Haze-free" refers to the absence of high molecular weight starch fragments which have reassociated to form large, relatively insoluble aggregates adversely affecting optical clarity.

Opinion

[1] The only issue presented for review is whether appellant's specification satisfies the how to make requirement of 35 U.S.C. 112, first paragraph, with regard to the claimed limitation that the D.E. after the initial acid hydrolysis is "*less than about 15.*" Stated otherwise, is the scope of enablement provided one of ordinary skill in the art by the disclosure commensurate with the scope of protection sought by the claims? In re Geerdes, 491 F.2d 1260, 180 USPQ 789 (CCPA 1974); In re Cescon, 474 F.2d 1331, 177 USPQ 264 (CCPA 1973); In re Moore, 58 CCPA 1042, 439 F.2d 1232, 169 USPQ 236 (1971). Although appellant's specification describes the invention as broadly as it is claimed, thereby eliminating any issue concerning the description requirement, a specification which "describes" does not necessarily also "enable" one skilled in the art to make or use the claimed invention. See In re Mayhew, 481 F.2d 1373, 179 USPQ 42 (CCPA 1973). However, this court has made it clear that the Patent and Trademark Office must substantiate its rejection for lack of enablement with *reasons.* Worth repeating is the following statement from In re Marzocchi, 58 CCPA 1069, 439 F.2d 220, 169 USPQ 367, 369-370 (1971):

> The only relevant concern of the Patent Office under these circumstances should be over the *truth* of any such assertion. The first paragraph of § 112 requires nothing more than objective enablement. How such a teaching is set forth, either by the use of illustrative examples or by broad terminology, is of no importance.
>
> As a matter of Patent Office practice, then, a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. Assuming that sufficient reason for such doubt does exist, a rejection for failure to teach how to make and/or use will be proper on that basis; such a rejection can be overcome by suitable proofs indicating that the teaching contained in the specification is truly enabling.
>
> * * * it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure. [Emphasis in original and footnote deleted.]

Accord, In re Dinh-Nguyen, 492 F.2d 856, 181 USPQ 46 (CCPA 1974); In re Bowen, 492 F.2d 859, 181 USPQ 48 (CCPA 1974).

Section 112 does not require that a specification convince persons skilled in the art that the assertions therein are correct. In re Robins, 57 CCPA 1321, 429 F.2d 452, 166 USPQ 552 (1970).

The following precedents are analogous to the present case and demonstrate the error in the position of the board. In re Anderson, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973), involved claims to a surgical dressing comprising a laminated dressing of a primary layer, which is readily soluble in plasma, and a secondary layer in face-adhering contact with the primary layer also soluble in plasma, but to a lesser extent. In response to the Patent Office's assertion that the major part of the specification was directed to a laminate in which the primary layer was hemostatic, the court said, 176 USPQ at 333:

> It is quite true that the *major part* of appellant's specification is a disclosure of a primary layer having hemostatic properties[,] but in determining what is disclosed we cannot restrict our consideration to the *major part* of the disclosure. Appellant is clearly entitled to have the *whole* of his disclosure considered. We have already adverted to the *abstract* and to original claim 1, *both* of which make clear that appellant did not regard his invention as limited to a hemostatic primary layer. His broad dis-

closures do not refer to the hemostatic property at all. [Emphasis supplied.]

The solicitor requests that we "rethink" Anderson with regard to the use of the abstract as part of the specification in dealing with rejections under 35 U.S.C. 112, citing Rule 72(b), 37 CFR 1.72(b).[2] However, Rule 72(b) states that the purpose of the abstract is to enable the "Patent Office and the public generally to determine quickly from a cursory inspection the *nature and gist of the technical disclosure* [emphasis supplied]." While the [3] rule indicates that the abstract should not be used for *interpreting* the scope of claims, nowhere does the rule state that the abstract is *not* part of the specification. Furthermore, we can see no distinction for purposes of 35 U.S.C. 112 between the abstract and the claims as originally filed, which have always been considered part of the original disclosure. Accordingly, we adhere to our position in Anderson, supra, that the abstract is embraced by the word "specification" for the purposes of a rejection under 35 U.S.C. 112, first paragraph.

In re Coleman, 472 F.2d 1062, 176 USPQ 522 (CCPA 1973), involved a flexible conduit comprising a suitable elastic adhesive material between the metal hose and a plastic jacket. The sole issue was enablement with respect to the nature of the adhesive material, described in the claims by certain properties. The specification provided a generic disclosure couched in terms of the properties recited in the claims and a more specific disclosure of the preferred adhesive materials described by reference to trademark and trade name designations. In reversing the Patent Office the court stated, 176 USPQ at 524:

> In reviewing the rejection before us, we have appropriately looked to the disclosure in its *entirety* and have arrived at a conclusion which is necessarily to some extent subjective. * * * we find ourselves confronted with no adequate justification for denying appellant patent protection of the scope sought.
>
> The board's opinion focuses too narrowly on the listing of specific materials by trademark or trade name. We stress the need to inject the *totality* of the disclosure into the examination for sufficiency under § 112 of this specification. [Emphasis supplied.]

In re Mayhew, supra, involved an apparatus for continuous-strip molten metal coating operations wherein a preheated continuous strip of metal is passed through a bath of molten metal. The claims recited a cooling means within the bath, and the Patent Office rejected the claims for lack of enablement in not specifying that the cooling means had to be adjacent the exit side of the bath. The specification broadly indicated that a cooling means was located in the bath; the specification did not state specifically that the cooling means could be located *anywhere*, and no specific embodiments described the location of the cooling means other than adjacent the exit side of the bath. In reversing the Patent Office, the court found that there was nothing in the specification to indicate that the cooling *had to be* adjacent the exit side of the bath; that the description in the specification of the cooling means at the exit side of the bath was merely a preferred embodiment; and that the Patent Office failed to substantiate its rejection with evidence or reasoning that location of the cooling means at a point other than the exit side of the bath would not achieve the desired result.

The examiner in this case expressed *doubt* concerning the operability of the claimed process having an initial acid hydrolysis step to a D.E. less than *5*. The justification for this doubt was his assertion that *appellant's specification* teaches that a D.E. of at least 5 is essential to operability.

The abstract of the specification indicates that the starch in the acid hydrolysis step "is treated with acid to a D.E. less than 15," which would merely inform one skilled in the art that anything less than 15 would be operable. In re Anderson, supra; In re Mayhew, supra. In example I, starch slurries were acid

[2] [2] The solicitor repeatedly raises what is tantamount to a new ground of rejection with respect to whether appellant's specification enables one skilled in the art to produce a hydrolysate which is "haze-free." "The practice of raising such matters at this stage of the prosecution is unfair to the other party, adds to the burden of the court, and serves to obscure the raising party's position on the issues that actually were raised below." In re Alul, 468 F.2d 939, 175 USPQ 700 (CCPA 1972). Similarly, the solicitor attempts to apply a new rationale to support the rejection based upon a patent of record which was not relied on below. This cannot be condoned. In re Corth, 478 F.2d 1248, 178 USPQ 39 (CCPA 1973). New grounds of rejection, if valid, may be applied in further proceedings before the Patent and Trademark Office referred to in 35 U.S.C. 144. Finally, the solicitor refers to certain statements in the prosecution of the original patent, which were only made in connection with the examiner's rejection for impermissible recapture under 35 U.S.C. 251. Besides considering this to be new argument, we agree with the board, which reversed the examiner's rejection under 35 U.S.C. 251, that

> the deletion of the broader range from the claims of the patent was made at the insistence of the Patent [O]ffice. The rejections of original claim 24 [having no lower limit] were on grounds of undue multiplicity, 35 U.S.C. 112, and on obviousness, 35 U.S.C. 103, over art which apparently had nothing to do with the insertion of the lower limit of 5. There is nothing inconsistent in this prosecution with the appellant's position that there was error without deceptive intention.

hydrolyzed to a "maximum of 15 D.E." Although the particular slurries had a D.E. of 10.3, 12.9, and 15.2, there is no indication that values less than 5 would not be operable. Also, examples II, III, and IV show "a D.E. of about 6.5," "of about 8," and "of 5," respectively.

After the abstract, the specification twice states that the hydrolysate after the initial hydrolysis has "a D.E. between *about* 5 and *about* 15 [emphasis supplied]." There is no implication that a D.E. of at least 5 is essential to operability of the invention. Immediately following is a discussion of the "preferred method," wherein the starch is acid hydrolyzed to "a D.E. between 5 and 15."[3] Again, there is no implication of essentiality in a D.E. of at least 5. In the continuing discussion of the preferred method, the specification states that the acid hydrolysis "is continued to a D.E. of at least 5 and less than 16 [sic ? 15]." The term "at least" is heavily relied upon by the examiner and the board; however, it occurs within the overall context of "preferred method" and does not, therefore, imply that operability is inexorably tied to a value of 5 or more.

We conclude that there is nothing in the specification which justifies the doubts of the examiner or the board over the sufficiency of the specification to enable one skilled in the art to make a low D.E. hydrolysate starting from a starch slurry hydrolyzed to a D.E. less than 5.

[4] Appellant's evidence includes his affidavit reciting certain experiments and comparative results involving D.E. values of above and below 5. Such an affidavit can be considered in demonstrating objective enablement as part of the "suitable proofs" discussed in In re Marzocchi, supra. The solicitor attacks the use of this affidavit as an ex post facto consideration, citing In re Kirk, 54 CCPA 1119, 376 F.2d 936, 153 USPQ 48, 266 (1967), and In re Gardner, 57 CCPA 1207, 427 F.2d 786, 166 USPQ 138 (1970). However, those cases involved attempts to *add* information to the specification; here, the affidavit is being employed only to demonstrate that the teaching in the specification is truly enabling. The affidavit shows very good results at a D.E. of 1.4, with equivalent results at D.E.'s of 3.2, 3.5, 4.9, and 6.7. It plainly demonstrates that the lower limit of 5 is not critical and that initial acid hydrolysis to a D.E. below 5 is operable according to the teachings of the specification.

In view of the foregoing, we hold that appellant's specification satisfies the how to make requirement of 35 U.S.C. 112, first paragraph.

Accordingly, the decision of the board is *reversed.*

[3] In response to a question at oral hearing whether that statement involved *the* preferred method, the solicitor asked what was the *other* preferred method. Assuming there is another preferred method rather than a mere variation of *the* preferred method, the word "preferred" speaks for itself.

Court of Claims of the United States

Wolowitz et al. v. United States et al.

No. 93-74 Decided Jan. 17, 1975

PATENTS

1. Applications for patent — Secrecy of application (§15.7)

Pleading and practice in courts — Discovery and inspection (§53.30)

Patent applications are secret documents not available to public generally; while in rare instances, it is necessary to require disclosure of pending application, practice should be confined to instances where information is essential for party to lawsuit to properly prepare for trial, especially where litigants are competitors; this does not mean that interest of patent applicant is to prevail over right of party to discovery in full truth, since disclosure should be ordered where issues cannot be fairly adjudicated without it.

Petition by William H. Wolowitz and Frallen, Inc., against United States and IBM Corporation (third-party defendant) for compensation for use of an invention. On motion by third-party defendant requiring response to interrogatories. Motion granted in part and denied in part.

William D. Hall and Geoffrey R. Myers, both of Washington, D. C., for plaintiffs.

Carla A. Hills and A. David Spevack for defendant.

Douglas B. Henderson, Brian G. Brunsvold, Kenneth E. Payne, and Finnegan, Henderson, Farabow & Garrett, all of Washington, D. C., and Charles E. McTiernan, Lexington, Ky., for third-party defendant.

Colaianni, Trial Judge.

On August 23, 1974, IBM, third-party defendant in the above-styled case, filed a motion under Rule 73 requesting an order that plaintiff William H. Wolowitz respond to 35 interrogatories. By way of responses filed on October 17, November 15, November 22 and December 26, 1974, plaintiff Wolowitz appar-

a reference of relatively recent vintage—Lemin itself—discusses the "phytotoxic" effect of chlorohydrocarbon herbicide carriers. The record before us does not contain clear and convincing evidence that any increase in herbicidal activity shown by appellants' emulsifiable concentrate compositions when applied at rates of 3.5 and 7.0 lb./acre total active ingredient is not due at least in part to the presence of the chlorohydrocarbon solvent in that composition. We think that evidentiary defect is fatal to appellants' case. See, by way of analogy, In re Lemin, 56 CCPA 1050, 408 F.2d 1045, 161 USPQ 288 (1969).

The decision is *affirmed.*

Court of Customs and Patent Appeals

In re ANDERSON

No. 8837 Decided Jan. 26, 1973

PATENTS

1. Specification — Claims as disclosure (§62.3)

Unamended original claim in application is considered as part of original disclosure.

2. Specification — Sufficiency of disclosure (§62.7)

In determining what is disclosed, consideration cannot be restricted to major part of disclosure; applicant is entitled to have the whole of his disclosure considered.

3. Specification — Sufficiency of disclosure (§62.7)

First paragraph of 35 U.S.C. 112 does not require a specific example of everything within scope of broad claim; in application wherein there are specific examples of what appears to be preferred embodiment and best mode contemplated by applicant of carrying out claimed invention, and wherein court is dealing only with a possible alternative embodiment within scope of claims, claims cannot be limited to specific examples, where there is clear disclosure of a broader invention.

4. Specification — Sufficiency of disclosure (§62.7)

Where only essential characteristic of material disclosed is solubility and, although hemostatic embodiment is exemplified, it may or may not be hemostatic, fact that applicant states that he does not limit invention to this particular property does not compel him to give an example of a material lacking this characteristic on penalty of having to restrict claims to hemostatic material.

5. Claims — Broad or narrow — In general (§20.201)

Claims — Dependent (§20.35)

Dependent claims, which merely add a limitation to combination by calling for medication, are not too broad, since they are inherently limited to such medication as would be useful in the particular application; no one of ordinary skill in the art would use any other kind of medicament; court is dealing with combination claims, not with claims for medicaments per se; it is always possible to put something into a combination to render it inoperative; it is not function of claims to exclude all such matters but to point out what the combination is.

6. Amendments to patent application — New matter (§13.5)

In determining whether amendment to claim constituted new matter, question is not whether added word was a word used in specification as filed but whether there is support in specification for employment of word in claim, i.e., whether concept is present in original disclosure.

Particular patents—Dressing

Anderson, Wound Dressing, claims 1 to 6 and 8 of application allowed; claims 7, 9, and 10 refused.

Appeal from Board of Appeals of the Patent Office.

Application for patent of Robert J. Anderson, Serial No. 642,294, filed May 31, 1967; Patent Office Group 120. From decision rejecting claims 1 to 10, applicant appeals. Affirmed as to claims 7, 9, and 10; reversed as to claims 1 to 6 and 8.

S. AUGUSTUS DEMMA, New York, N. Y., for appellant.

S. WM. COCHRAN (RAYMOND E. MARTIN of counsel) for Commissioner of Patents.

Before MARKEY, Chief Judge, and RICH, ALMOND, BALDWIN, and LANE, Associate Judges.

RICH, Judge.

This appeal is from the Patent Office Board of Appeals decision affirming the rejection of

claims 1-10, all claims of application serial No. 642,294, filed May 31, 1967, entitled "Wound Dressing." The application is stated to be a continuation-in-part of serial No. 337,709, filed January 8, 1964, which matured into patent No. 3,328,259, and of serial No. 782,515, filed December 23, 1958, now abandoned. We reverse in part and affirm in part.

The Invention

The invention described and claimed by appellant is a surgical dressing which is soluble in plasma and completely absorbable in the body and hence suitable for both external and internal use. It is intended to afford a substantial degree of containment against excess flow of plasma from a wound to which it is applied. Being absorbable, it becomes incorporated in the scab or eschar which forms over an external open lesion. The abstract forming part of the specification reads:

> The invention comprises a laminated dressing for a wound comprising a primary layer which is readily soluble in plasma and a secondary layer in face adhering contact with the primary layer, also soluble in plasma but to a lesser extent than the primary layer.

[1] Claim 1, which is the only independent claim and is an unamended original claim in this application and therefore, by elementary principles of patent law, to be considered as a part of the original disclosure,[1] reads (paragraphing supplied):

> 1. A laminated dressing for a wound comprising a laminated structure made up of two layers arranged face to face,
>
> both layers being plasma-soluble,
>
> one layer constituting a primary layer adapted to be applied directly to the wound, and being more readily soluble in plasma than the other layer,
>
> the other layer constituting a secondary layer serving as a backing for said primary layer.

It is thus seen that the invention of claim 1 is an article of manufacture comprising a combination of elements. Since claims 2-10 all depend, directly or indirectly, from claim 1, they are likewise combination claims. We shall not discuss them here but in connection with our discussion of the various rejections pertaining to them. The primary issue is the patentability of claim 1, the parent and broadest claim. We find it was erroneously rejected.

The Rejections

The board did not altogether agree with the grounds of rejections as stated by the examiner, affirmed some, reversed some, and added some of its own, not designated as new rejections. Appellant has made no issue of the fact that some of the rejections originated with the board. The Patent Office Solicitor has presented an analysis showing that we have seven different rejections before us, five of them on the ground that claims are "broader than warranted by the disclosure" for one reason or another. A sixth is for indefiniteness and the seventh for new matter.

We agree with the solicitor's explanation of what the statutory bases of these rejections *should* have been stated to be, which he has made in the light of two cases we decided after the date of the examiner's Answer herein and so close to the board's decision that it certainly did not consider them, In re Borkowski, 57 CCPA 946, 422 F.2d 904, 164 USPQ 642 (1970), and In re Wakefield, 57 CCPA 959, 422 F.2d 897, 164 USPQ 636 (1970). See also In re Hammack, 57 CCPA 1225, 427 F.2d 1378, 166 USPQ 204 (1970). The solicitor's explanation, which differs in several respects from the reasons given by the examiner and affirmed by the board, reads:

> It is apparent from the preceding analysis of the various grounds of rejection that all claims (grounds 1-5) have been rejected for failure to satisfy Section 112, paragraph 1, that claims 7, 9, and 10 have additionally been rejected for failure to satisfy Section 112, paragraph 2 (ground 6), and that claim 2 has additionally been rejected for failure to satisfy Section 132 (ground 7).

Further details as to these rejections will be given as we consider them. There is no rejection on pior art nor any prior art relied on.

Opinion

I

All claims except 4, 9 and 10[2] were rejected as "broader than warranted by the disclosure" in the use of the expression (in the third clause in claim 1 as set forth above) "a primary layer adapted to be applied directly to the wound, and being more readily soluble in plasma than the other layer."

In making this rejection, the examiner did not explain the basis of his assertion that the claims he so rejected are "broader than war-

[1] Manual of Patent Examining Procedure 706.03(n) and 608.01(1), In re Oswald, 23 CCPA 1176, 83 F.2d 827, 29 USPQ 525 (1936), In re Myers, 56 CCPA 1129, 1138, 410 F.2d 420, 427, 161 USPQ 668, 673 (1969).

[2] The examiner applied this rejection only to claims 1, 5, and 6. The board extended it to other claims by the statement: "This term, as appellant appears to recognize, appears in claims 1, 2, 3, 5, 6, 7 and 8." The fact is the "term" is a part of all claims.

ranted by the disclosure." Challenged with having given no explanation, the only light he shed in his Answer was to say that "the above phrase was rejected on breadth," citing in justification In re Sus, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301 (1962), and In re Lund, 54 CCPA 1361, 376 F.2d 982, 153 USPQ 625 (1967). Of course, it was not the "phrase" the examiner was rejecting but the claim and we will assume that is what he meant. We find no support for the rejection in Sus. That case essentially involved the patentability of claims to a group of chemical compounds and to their uses claimed as processes of making printing plates. We found the claims to be not in compliance with § 112 because, as clearly stated at the end of the opinion, they did not conform to what the applicant *described* as his invention in the specification. The situation here is that the broad claims are of the same scope as the invention described. We also note that appellant relied on Sus [134 USPQ at 304] below for our statement, to which we adhere, that:

> The public purpose on which the patent law rests requires the granting of claims commensurate in scope with the invention disclosed. This requires as much the granting of broad claims on broad inventions as it does the granting of more specific claims on more specific inventions.

Lund was another case where the claims were for chemical compounds, useful as medicaments. It relied on Sus. We there said, "the *invention claimed* should be no broader than the *invention set forth* in the written description contained in the specification." We found that not to be the case. Here we find it is the case which is sufficient to distinguish Lund.

In affirming, the board presented an entirely different justification, as follows (emphasis ours):

> The *major part* of appellant's specification is directed to a laminate in which the primary layer is *hemostatic.* Such a layer is exemplified by the disclosures of two specific ethers of cellulose. The prophetic paragraph in page 5 of the specification, however, has no support by way of *exemplification* and does not demonstrate or suggest to one skilled in this art *how to use* any other material in the laminate. There is no suggestion as to any other specific materials which may be employed. Thus the examiner's rejection * * * is sustainable.

[2] It is quite true that the major part of appellant's specification is a disclosure of a primary layer having hemostatic properties but in determining what is disclosed we cannot restrict our consideration to the major part of the disclosure. Appellant is clearly entitled to have the whole of his disclosure considered. We have already adverted to the abstract and to original claim 1, both of which make clear that appellant did not regard his invention as limited to a hemostatic primary layer. His broad disclosures do not refer to the hemostatic property at all. Additionally, the "prophetic" paragraph referred to by the board appears to be the one which reads:

> Although the primary layer is described as being hemostatic, as far as certain aspects of the invention are concerned, it need not be so, as long as it is water-soluble or plasma-soluble, and can serve as a vehicle for medication, released upon dissolution in the plasma.

As we view it, the board's reason for agreeing that claim 1 is "broader than warranted by the disclosure" is not because the invention as disclosed is not of equal scope with claim 1 but because the claim is inclusive of a laminated dressing in which the primary layer is of non-hemostatic material *and* because there is (1) no "exemplification" of such a material and (2) no suggestion of "how to use" such a material in the laminate.

[3] On the first point, the tacitly assumed need for exemplification, we do not regard § 112, first paragraph, as requiring a specific example of everything *within the scope* of a broad claim. In re Gay, 50 CCPA 725, 309 F.2d 769, 135 USPQ 311 (1962). There is no question raised as to the fact that there are specific examples of what appears to be the preferred embodiment and best mode contemplated by the applicant of carrying out his claimed invention; we are here dealing only with a possible alternative embodiment within the scope of the claims. What the Patent Office is here apparently attempting is to limit all claims to the specific examples, notwithstanding the clear disclosure of a broader invention. This it may not do. As was stated in American Anode, Inc. v. Lee-Tex Rubber Products Corp., 136 F.2d 581, 585, 58 USPQ 7, 11 (7th Cir. 1943):

> There is no doubt that a patentee's invention may be broader than the particular embodiment shown in his specification. A patentee is not only entitled to narrow claims particularly directed to the preferred embodiment, but also to broad claims which define the invention without a reference to specific instrumentalities. Smith v. Snow, 294 U.S. 1 [at pages 11 et seq.], 24 USPQ 26, 30 * * *

We consider the board's first reason insufficient.

On the "how to use" point we simply disagree with the board. In its broad aspect, appellant's dressing is a very simple thing. It has two layers of plasma-soluble material. The in-

ner layer, which lies against the wound, is, like the outer layer, soluble in plasma but dissolves more rapidly than the outer layer. There are various disclosed reasons for this. Because it dissolves, it does not have to be changed or removed; in dissolving it releases any medication it may be carrying; if it is of hemostatic material, in dissolving in the plasma it produces hemostasis. The backing layer, being more slowly soluble, acts to contain any excess plasma escaping through the primary layer, provides strength, and prolongs the useful life of the dressing. It will be understood that these two layers are adhered together and are in film or sheet form, it being disclosed that the primary or inner layer may be aerated in manufacture into porous or foam form. It is disclosed that making it porous increases the speed of its dissolution, as would be expected. We agree with appellant that the board erred in saying that the disclosure contains no suggestion of a material, which might be employed as the primary layer, which is non-hemostatic. Among the materials disclosed is methyl cellulose and the specification includes the statement:

> This compound, in dense form, has little or no hemostatic properties * * *.

[4] But even without this disclosure, we do not see why, in view of the clear disclosure, quoted above, that the primary layer need *not* be hemostatic, appellant should not have claims to his combination broad enough to include such materials even though no example thereof is given. According to the broad disclosure, the only essential characteristics of the primary layer are that it be plasma-soluble and more soluble than the backing. It may or may not be hemostatic. The hemostatic embodiment is exemplified. The mere fact that applicant has stated that he does not *limit* his invention to this particular property in the primary layer does not compel him to give an example of a material lacking this characteristic on penalty of having to restrict his claims to dressings in which the primary layer is hemostatic. In effect, all appellant is saying is that a hemostatic property in the primary layer is *not* part of the broad inventive concept he has disclosed and is claiming, though it may be an advantageous characteristic and is a limitation of some narrower claims and, probably, is the preferred form of the invention.

We will not, therefore, sustain this ground of rejection.

II

Claims 2 and 10 were rejected as "broader than warranted by the disclosure" because they use the term "medicament." The claims read:

> 2. A laminated dressing as described in claim 1, the primary layer carrying a medicament.
>
> 10. A laminated dressing as described in claim 9, said primary layer containing a medicament.

As to these claims the board expressly rejected the examiner's reasoning and substituted the following ground for sustaining the rejection:

> The criticized term [medicament], however, is too broad in that it includes medicaments not operative for appellant's stated purpose. It is well-known [sic] that "medicaments" include such materials as anti-coagulating agents and debriding agents, which would prevent the hemostatic action required of appellant's primary layer. This rejection will be sustained.

We have shown that the board erred in assuming that hemostatic action is required. The express disclosure is that it is not.

In the introductory portion of its opinion, the board said, "We will agree with appellant that he has adequately identified specific medicaments set forth in the examples [8 of them] of the patent, 3,328,259, maturing from the parent application." So we are not faced with inadequate disclosure of medicaments but merely with the proposition that because there *may* exist some medicaments *unsuited* to use in the dressing of this invention, the claims are too broad. The board is saying, in effect, that these claims which, being dependent, do no more than add a *limitation* to claim 1 (claim 9 from which claim 10 depends being itself dependent from claim 1) are too broad because not somehow limited to *operative* or suitable medicaments.

[5] The concept of medicament or medication involves a highly technical subject in an art requiring a high degree of technical skill—doctors of medicine and pharmacologists. It is common knowledge that some medicines of great utility are lethal when used in the wrong quantity, that one man's medicine is another man's poison, and that what is good medicine in one place may be bad medicine in another. The board, seemingly, is demanding a claim limitation to operative medicaments in operative quantity. We think that dependent claims such as the above, which merely add a limitation to the two-layer combination dressing by calling for medication in the primary layer, are inherently limited—by common sense if nothing else—to such medication as would be useful in the particular application. No one of ordinary skill in the art would use any other kind of medicament and there is no practical way to restrict the claim language so

as to exclude all inoperative or deleterious medicaments other than by the addition of such redundant terms as "suitable" or "operative for the purposes described." We dealt with similar arguments in In re Myers, 56 CCPA 1129, 410 F.2d 420, 161 USPQ 668, 672 (1969), and in dealing with an undue breadth rejection said:

> If every element in a mechanical combination claim were required to be so specific as to exclude materials known to be inoperative and which even those *not* skilled in the art would not try, the claims would fail to comply with 35 U.S.C. 112 [second paragraph] because they would be so detailed as to obscure, rather than [to] particularly point out and distinctly claim, the invention.

We are here dealing with combination claims, not with claims for medicaments per se. It is always possible to put something into a combination to render it inoperative. It is not the function of claims to *exclude* all such matters but to point out what the combination is.

We consider this ground of rejection unsound and will not sustain it.

III

Claim 3 reads:

> 3. A laminated dressing as described in claim 1, the primary layer containing a hemostatic agent.

The board said:

> We also agree with the examiner's position as to the term "a hemostatic agent" in claim 3 since, contrary to appellant's argument, the claim is not limited to such agents acting in a physical manner only but includes chemical agents, for example, those in styptic pencils, which also exhibit the stated function. This claim is obviously too broad.

The examiner merely indicated that "hemostatic agent" is too broad for some unspecified reason. The reasoning contributed by the board, apparently predicated on a theory that appellant's disclosure is limited to hemostatic agents acting in a "physical manner," seems to us without foundation. We have carefully studied the short application as well as the much more extensive patent issued to appellant on the parent application, part of which is incorporated into the application at bar by reference. One of the hemostatic materials is sodium carboxymethyl cellulose which, when plasticized, can be formed into a film to serve as the primary layer. Speaking of such a film the patent states:

> Tests have been conducted on simple cuts and it was found that the film would not only coagulate the blood, but would also combine with it, forming an artificial eschar which permitted healing thereunder.

We do not believe such coagulation of blood is a purely "physical" action. On the other hand, appellant disputes the board arguing that styptic pencils do not function through chemical action but by their astringent action which halts the flow of blood by contracting the tissues or blood vessels. We would hesitate to agree that this is not a "chemical" action. Whatever may be the shadowy line between physical and chemical behavior, we see no reason why appellant is not entitled to limit his main claim by specifying the presence in the primary layer of *any* hemostatic agent, of which he has disclosed several. He is not claiming such agents per se but is claiming a combination in which said agent is but one element. See In re Fuetterer, 50 CCPA 1453, 319 F.2d 259, 138 USPQ 217 (1963), and In re Boller, 51 CCPA 1484, 332 F.2d 382, 141 USPQ 740 (1964), which support appellant.

We will not sustain this ground of rejection.

IV

Claim 4 reads:

> 4. A laminated dressing as described in claim 1, the two layers constituting essentially cellulose derivatives.

Here again the examiner was just making an unexplained "breadth rejection." The board found "cellulose derivatives" clearly too broad because "inclusive of any and all derivatives, no matter how complex, produced in any manner, which are neither suggested by nor represented by the specific examples herein."

Once more we think the board was overlooking the fundamental fact that claim 4 is a limitation on claim 1, the two taken together being a claim to a combination of elements constituting a dressing, not a claim to cellulose compounds per se. The board obviously goes too far in saying the term objected to is inclusive of all cellulose derivatives because it ignores the functional limitations in claim 1 which require that the two layers both be soluble in plasma and that the cellulose derivatives be such as can be formed into "layers" which can be laminated into a dressing. There is no question but that the class of cellulose derivatives has been sufficiently exemplified to provide an *enabling* disclosure.

We have considered the cases cited by the board to support its conclusion, In re Harwood, 55 CCPA 922, 390 F.2d 985, 156 USPQ 673 (1968), and Austenal Labs., Inc. v. Nobilium Processing Co. of Chicago, 153 F.Supp. 709, 115 USPQ 44 (DC ND Ill. 1957), but find them clearly distinguishable on their facts from the present case which we con-

sider to be governed by the principles announced in In re Metcalfe, 56 CCPA 1191, 410 F.2d 1378, 161 USPQ 789 (1969), and In re Fuetterer, supra.

We will not sustain this rejection.

V

Claims 7, 9, and 10 state that the backing layer contains a "cellulose derivative of the class consisting of methyl cellulose and hydroalkyl ether of cellulose." The issue here is a simple one: Is the term "hydro-alkyl" in this context "indefinite"?

The board held that "hydro-alkyl" is an "improper designation," "substantially meaningless," and not in conformity with standard chemical terminology. Appellant was trying to cover a disclosed compound identified in argument as *hydroxy* propyl cellulose.

Appellant comes very close to admitting that "hydro-alkyl" is a misnomer and it is quite apparent that the proper term would be "hydroxy-alkyl." Appellant says it should make no difference since those skilled in the art would know what was intended.

We agree that "hydro-alkyl" is clearly wrong. The term is not without meaning, however, and could be misleading. At the very least it renders the claims in which it appears indefinite.

We will sustain this rejection. Doing so, it becomes unnecessary to consider another rejection of claims 7, 9, and 10 on the ground that the same term renders the claims "broader than warranted by the disclosure."

VI

Claim 2 as originally filed reads:

> 2. A laminated dressing as described in claim 1, the primary layer *containing* a medicant. [Our emphasis.]

It was amended to change "containing" to "carrying" (see point II, supra) and on that account was rejected under 35 U.S.C. 132 as containing "new matter." The board said:

> We agree with the examiner's rejection of claim 2 apparently as based upon an amendment introducing new matter contrary to the requirements of 35 U.S.C. 132. There is no antecedent basis in the specification for the term "carrying." * * * This term, therefore, is not supported (35 U.S.C. 112) and has been improperly introduced into the claims.

It is true the term "carrying" does not appear in the specification in this connection. Neither does the term "containing," except as it appeared in original claim 2. The disclosure is that the primary layer may be "formulated with" medicaments and that that layer "can serve as a vehicle for medication, released upon dissolution in the plasma."

[6] The question, as we view it, is not whether "carrying" was a word *used* in the specification as filed but whether there is *support* in the specification for employment of the term in a claim; is the concept of carrying present in the original disclosure? We think it is. We think disclosure of the primary layer as a "vehicle" for the medication is quite sufficient for this purpose. If support for this conclusion be needed, we cite Webster's Seventh New Collegiate Dictionary (1963):

> *vehicle* * * * carriage, conveyance, fr. *vehere*
>
> to carry— * * * 1a: an inert medium in which a medicinally active agent is administered b: any of various other media acting usu. as solvents, carriers, or binders for active ingredients or pigments 2: an agent of transmission; CARRIER * * * 4: a means of carrying or transporting something; CONVEYANCE * * *

We will not sustain this rejection.

Conclusion

The rejection of claims 7, 9, and 10 is *affirmed*; the rejection of the remaining claims, 1-6, and 8 is *reversed.*

Court of Customs and Patent Appeals

In re OWNBY

No. 8850 Decided Jan. 26, 1973

PATENTS

1. Patentability — Anticipation — In general (§51.201)

Actual date when claimed invention was made is irrelevant, in view of statutory time bar of 35 U.S.C. 102(b), where cited patents issued more than one year before applicant's filing date.

2. Patentability — Anticipation — In general (§51.201)

Patentability — Invention — In general (§51.501)

Time frame for avoiding references that evidence obviousness (35 U.S.C. 103) is that imposed by section 102(b).

3. Patentability — Evidence of — Delay and failure of others to produce invention (§51.459)

Contention that claimed invention had

recorded observations on the separation problems still being encountered. On page 12 of this report it is stated with respect to the tow fabricated in the Second Plant Trial that separation "was not completely continuous due to (1) the tendency for filaments at the zero twist sections in adjacent yarns to entangle, and (2) the difficulty in determining the yarn end order during convergence within a cabled group." Although in the Third Plant Trial the entangling of filaments at zero twist sections was reduced by keeping the zero twist portions of adjacent strands out of phase with one another, separation still was not satisfactory. Here the problem was said to be that "the level of false twist imparted during this plant trial was below the 1/2 tpi average (as drawn) desired for good yarn identity and ease of yarn separation." The inventors went on to hypothesize:

> Further separation studies revealed that when false twist is used for yarn identification, the energy developed from yarn twist liveliness is expended not only in forming paired cables but, to a small extent, to rope cables which interfere with separation. * * * As a means of overcoming the rope cabling present in the tow materials, the procedure for yarn separation shown in Figure 12 was developed. * * * By this means, continuous separation of yarns from the tow material was limited only by the poor yarn identity. All evidence indicated that further ease of separation would result from higher twist levels for improved yarn identity.

Thus it has not been established by the requisite preponderance of the evidence that the process of the counts was demonstrated to have utility in that the twisted threads so formed would permit completion of the tow-to-yarn process.

II. The Demonstration of Freeman and Meyer

In August of 1959 Freeman was transferred to a group engaged in research and development work in making carpets. A year later, on September 13, 1960, he recorded in his notebook (Exhibit KK) the concept of preparing simulated twist yarns by "false twisting single groups of yarns and then bringing false twisted yarns of the same twist direction together allowing the twist liveliness of the yarns to cable twist in the opposite direction developing a plied yarn." It was further noted that Meyer was planning to demonstrate this plying technique.

The experiment itself was run by Meyer with Freeman assisting on December 22, 1960 and recorded by Meyer (Exhibit LL). It was reported therein that "the yarn twisted very well and cabled tightly with a zero twist section of about 2-3 inches. The nature of the bulked yarn locked the twist in very well." But this was the extent of the activities. As pointed out by the board

> The contemporaneous record falls silent at this point with respect to any tests or use of that yarn whatsoever. The yarn was produced, period. The structure of that yarn would support counts 1 and 2 only.

Assertions by Freeman and Meyer in their later affidavits that the yarns were stable and had obvious utilities do not fulfill the requirement for contemporaneous recognition by the inventors of the production of stable twisted threads useful per se. Here the indications are clearly to the contrary. In Patent Proposal NPD-34 (Exhibit 10) submitted on January 31, 1961 which formed the basis for the present application, it was flatly stated that "[a]fter twist setting, it can be used as any carpet yarn * * *." As pointed out by the board, it was only at a later unspecified date that the application draft was revised to teach that the yarns need not be set prior to use.

In conclusion, appellants have failed to establish by a preponderance of the evidence actual reduction to practice of the process of the counts. The decision of the board is *affirmed.*

Court of Customs and Patent Appeals

In re Coleman

No. 8831 Decided Feb. 15, 1973

PATENTS

1. Specification — Sufficiency of disclosure (§62.7)

In reviewing rejection for insufficiency of disclosure, court looks to disclosure in its entirety and arrives at a conclusion which is necessarily to some extent subjective; totality of the disclosure must be injected into examination for sufficiency under 35 U.S.C. 112; In re Metcalfe, 161 USPQ 789, did not set inviolate bounds for permissible and impermissible use of trademark or trade name designations; each case must rest on the entirety of its particular facts; disclosure is held to be sufficient where unpredictable chemical reaction is not a factor and where there is no real likelihood of all, or even most, of either the specific materials disclosed being removed from the market or the trademarks or trade names being applied to significantly different products such as to render the present disclosure nonenabling; risk may be present, but it is small, and occurrence of the

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COLEMAN

Decided Feb. 15, 1973

Sufficiency of disclo-

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Particular patents—Conduit

Coleman, Flexible Conduit, claims 1 to 3, 6 to 13, and 15 to 18 of application allowed.

Appeal from Board of Appeals of the Patent Office.

Application for patent of Neil Coleman, Serial No. 654,879, filed July 20, 1967; Patent Office Group 340. From decision rejecting claims 1 to 3, 6 to 13, and 15 to 18, applicant appeals. Reversed.

A. SIDNEY KATZ, WILLIAM E. ANDERSON, ROBERT B. JONES, and FITCH, EVEN, TABIN & LUEDEKA, all of Chicago, Ill., for appellant.

S. WM. COCHRAN (FRED W. SHERLING of counsel) for Commissioner of Patents.

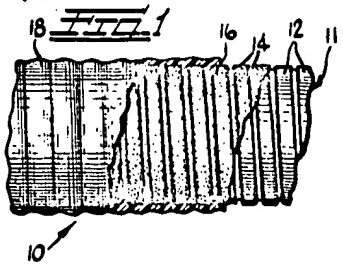
Before MARKEY, Chief Judge, and RICH, ALMOND, BALDWIN, and LANE, Associate Judges.

LANE, Judge.

This appeal is from the decision of the Patent Office Board of Appeals, adhered to on reconsideration, affirming the examiner's final rejection of claims 1-3, 6-13, and 15-18 of appellant's application[1] entitled "Flexible Conduit" as failing to satisfy the requirements of 35 U.S.C. 112. We reverse.

The claims on appeal are drawn to a flexible conduit comprising a strip-wound metal hose encased in a seamless plastic jacket and its method of manufacture. The plastic jacket is extruded onto the hose, and a problem which arises is the penetration of the plastic into the interstices of the hose convolutions which leads to wrinkling of the jacket upon flexure. Appellant solves the problem by forming a layer of a "suitable elastic adhesive material" in between the metal hose and plastic jacket.

The involved subject matter is more clearly understood with reference to Fig. 1 of appellant's specification, reproduced below.



[1] Serial No. 654,879 filed July 20, 1967.

In the drawing, the conduit 10 comprises a metal tube 11 having adjacent convolutions 12 spaced apart to form interstices 14, and intermediate bonding layer 16 of adhesive material, and a protective plastic jacket 18.

Claim 1 is representative of the article claims on appeal and, with subparagraphing ours, reads as follows:

> 1. A flexible conduit comprising
>
> a convoluted metal tube having each convolution axially movable relative to adjoining convolutions, said tube being extended from its most compressed condition so that adjoining convolutions are spaced apart to form full interstices therebetween,
>
> an adhesive layer bonded to the outer surface of said tube at least within the regions of said interstices, said adhesive layer having sufficient elasticity to elastically yield with flexure of the tube, and
>
> a seamless plastic jacket having a portion thereof fully extending into said interstices and bonded to the outer surfaces of said layer,
>
> said layer having sufficient adhesive and cohesive properties to resist the radial forces acting on said portion of the jacket extending into said interstices at the concave portion of a bend due to the compression of adjacent tube convolutions so that the occurrence of significant relative radial displacement between said jacket and said tube on flexure of the conduit is substantially prevented.

The remaining article claims depend from claim 1 and impose various limitations on the structure of the conduit and materials of which it is made. The method is set forth in independent claim 9 in language not materially different than that used in claim 1. The other method claims depend from claim 9 and further limit the method steps and materials used.

The sole issue before us is whether or not the specification is enabling with respect to the nature of the adhesive material used to form the intermediate layer. The board agreed with the examiner that the specification is "indefinite, insufficient and incomplete" in its failure to provide any specific example of a suitable adhesive and that undue experimentation would therefore be required to practice the claimed invention.

The specification provides generic disclosure couched in terms of the properties the adhesive must possess and the functions it must perform. For example, the adhesive layer must have "sufficient elasticity to elastically or resiliently yield with flexure of the tube" and must consist of "a suitable primer having sufficient adhesive and cohesive strength to resist the radial forces tending to dislodge the [spiral] rib [formed between the hose con-

volutions] from its interstitial position at the concave portion of a bend due to the compression of the adjacent convolutions thereat * * *."

There is also more specific disclosure of the preferred adhesive which is:

> [A] plastisol primer; that is, a primer generally intended for bonding metal to a polyvinyl chloride resin which is dispersed in a liquid plasticizer to form a liquid or paste, but generally having a relatively low viscosity and being in liquid form for molding. However, as utilized in accordance with the present invention, the plastisol primer is not used in conjunction with a plastisol, but with an extruded polyvinyl chloride compound. One preferred material is a plastisol primer of the B. F. Goodrich Industrial Products Company, Product No. A-1104-B. This primer has a resin base in a solvent of methyl ethyl ketone, the total solids being 18 to 20 per cent. The dry coating forming layer 16, when composed of this material, has a specific gravity of about 1.19 and a Durometer hardness of approximately 90.

Finally, the disclosure includes a list of eleven "[o]ther materials tried and found to be satisfactory" identified solely by trademark or trade name and manufacturer.

The board focused primarily on the adequacy of the description of specific adhesives by trademark or trade name in light of In re Metcalfe, 56 CCPA 1191, 410 F.2d 1378, 161 USPQ 789 (1969). In Metcalfe this court reversed a holding of insufficient disclosure and rejected arguments advanced by the board and solicitor respecting the use of trademarks or trade names to identify materials on the facts there present. The board here found factual distinctions which compelled, in its view, a result different than that reached in Metcalfe.

Opinion

We conclude that when viewed as a whole, the specification enables one skilled in the art to make and use the claimed invention without undue experimentation. See In re Long, 54 CCPA 835, 838, 368 F.2d 892, 895, 151 USPQ 640, 642 (1966); In re Borkowski, 57 CCPA 946, 950, 422 F.2d 904, 908, 164 USPQ 642, 645 (1970). We do not find the area of technology with which the present subject matter is concerned to be particularly complex or unpredictable. See In re Fisher, 57 CCPA 1099, 1108, 427 F.2d 833, 839, 166 USPQ 18, 24 (1970); In re Corr, 52 CCPA 1505, 1507, 347 F.2d 578, 580, 146 USPQ 69, 70-71 (1965). Given the generic disclosure, more specific disclosure of the preferred embodiment, and listing of suitable materials by trademark, as explained above, we are satisfied that the scope of enablement is commensurate with the scope of the claimed subject matter. See In re Marzocchi, 58 CCPA 1069, 439 F.2d 220, 169 USPQ 367 (1971).

[1] In reviewing the rejection before us, we have appropriately looked to the disclosure in its entirety and have arrived at a conclusion which is necessarily to some extent subjective. However, there have been no challenges to the asserted usefulness of adhesives which possess the characteristics described in appellant's specification or the materials identified by trademark or trade name to channel the inquiry. The implicit allegation that those skilled in the art could not ascertain suitable adhesives without exhaustive investigation is, to us, unreasonable and unrealistic in this case. In short, we find ourselves confronted with no adequate justification for denying appellant patent protection of the scope sought.

The board's opinion focuses too narrowly on the listing of specific materials by trademark or trade name. We stress the need to inject the totality of the disclosure into the examination for sufficiency under § 112 of this specification. In re Metcalfe, supra, should not be regarded as setting inviolate bounds for permissible and impermissible use of trademark or trade name designations. Each case must rest on the entirety of its particular facts. Worth repeating is the salient response by Judge Rich, writing for the court in Metcalfe, to the solicitor's objections to the use of trademark or trade name identification of materials:

> What we are driving at is this: (1) there is always the possibility that sometime after the issuance of a patent, the disclosure which was initially enabling may become "unenabling" and (2) whether a given disclosure which identifies a material to be employed in the practice of the claimed invention is "enabling" within the meaning of 35 U.S.C. 112, must be decided by a rule of reason applied to the facts of the case.[2]

While there may be factual distinctions between Metcalfe and the present case, we agree with appellant that, contrary to the suggestions of the board and solicitor, unpredictable chemical reaction is not a factor here. Moreover, we find no real likelihood of all, or even most, of either the specific materials disclosed being removed from the market or the trademarks or trade names being applied to significantly different products such as to render the present disclosure nonenabling. The risk may be present, but it is small, and occurrence of the event of nonenablement is too remote and speculative to support a rejection under the first paragraph of § 112. See also In re Ar-

[2] 56 CCPA at 1197, 410 F.2d at 1382, 161 USPQ at 792.

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The decision of the Board of Appeals is *reversed.*

Court of Customs and Patent Appeals

In re DULBERG

No. 8845 Decided Feb. 15, 1973

PATENTS

1. Foreign patents (§38.)

Patentability — Evidence of — Comparison with allowed claims or patents (§51.457)

Court need not consider actions taken in foreign countries with regard to patentability of instant application under United States law; granting of patent in foreign country has no relevance to determination of whether same invention would be obvious within ambit of 35 U.S.C. 103 since it is well known that standards of patentability vary from country to country.

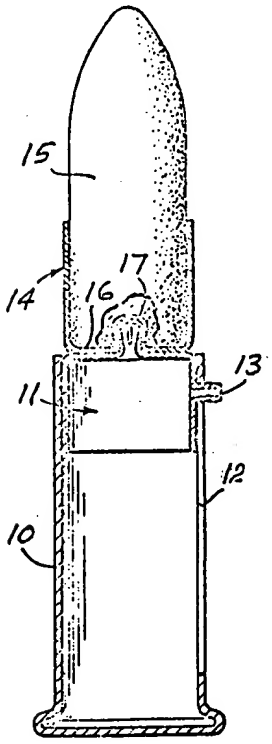

FIG. 1

Particular patents—Lipstick Holder

Dulberg, Retractable Lipstick Holder, claims 22 to 27 of application refused.

Appeal from Board of Appeals of the Patent Office.

Application for patent of Murray Dulberg, Serial No. 750,695, filed Aug. 6, 1968; Patent Office Group 336. From decision rejecting claims 22 to 27, applicant appeals. Affirmed.

MURRAY DULBERG, pro se.

S. WM. COCHRAN (FRED W. SHERLING of counsel) for Commissioner of Patents.

Before MARKEY, Chief Judge, RICH, BALDWIN, and LANE, Associate Judges, and WATSON, Judge, United States Customs Court, sitting by designation.

WATSON, Judge.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the examiner's rejection of claims 22-27 in appellant's application[1] entitled "Retractable Lipstick Holder." No claims were allowed. We affirm.

The claimed invention relates to a retractable lipstick holder having snap fastening means for attaching the lipstick supply to a carrier within the holder. This allows an expended lipstick to be detached and replaced by a new one.

The structure of the lipstick holder can be seen from Figs. 1 and 7-10 set out below:

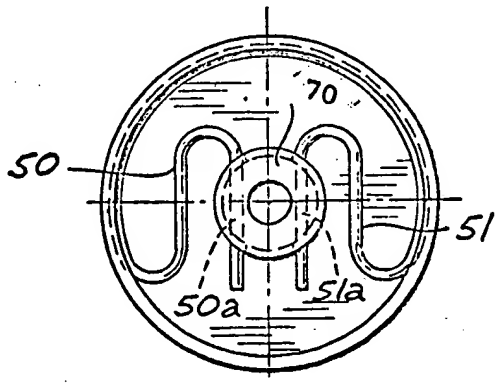

FIG. 7

[1] Serial No. 750,695 filed August 6, 1968.

of the marks on the goods recited therein, and there is nothing else in the record which would suggest any other reasonable connection between "LONDON" and hosiery.

The description of the goods in both appellant's registration and appellee's application being "hosiery," the goods and channels of trade must be considered the same, despite the fact that appellant's mark has previously only been used on men's socks while appellee's mark has been used exclusively on women's hose and pantyhose.

[1] However, we are of the opinion that the marks of the parties are so different that confusion, mistake or deception would not be likely to result from the use of appellee's mark. The marks are quite different in appearance, sound and meaning. Appellant argues otherwise, and presents a phonetic and connotational analysis of the marks which emphasizes their similarities and minimizes their differences. For example, appellant states:

> LONDON LEGS and LONDON GUARDS are both dominated by the prominent word "LONDON" forming their characterizing sound. The second words each end in a sibilent "s" sound and the dominant aural aspect of each word is the letter "G". Both *second* words are single syllable plurals characterized by the hard letter "G". When pronounced, they are strikingly similar. The letters which are different are vowels or soft consonants which do not characterize the sound of the marks.
>
> The similarities noted above extend to the appearance of the marks. Both are two words characterized by "LONDON" and the "S" ending. They are of substantially the same length, differing only by two letters and the letter "G" is a prominent part of each second word.

We do not find the marks "strikingly similar" on viewing or pronouncing them. On the contrary, they are substantially different—in their length, in the letters which make them up and in the sounds called for by those letters, including the "soft consonants" L in appellee's mark and R in appellant's mark. Likewise, accepting appellant's contention that hosiery is an "impulse" item, we do not think the consumer would take the time to derive the complicated similarities in connotations postulated by appellant, and such similarities certainly would not present themselves at first sight of either mark, even to one familiar with the other.

The decision of the board is *affirmed.*

ALMOND, Senior Judge, dissenting.

With all due respect, I do not agree with the majority opinion and would reverse the board.

The majority has stressed too much the differences in sound and appearance of the marks involved here. I do agree that those differences are great enough that a purchaser would not be likely to confuse the marks. However, as we have so often said, the real question to be resolved is whether the marks will confuse purchasers into believing that the goods to which the marks are applied emanate from the same source. See In re West Point-Pepperell, Inc., 468 F.2d 200, 175 USPQ 558 (CCPA 1972); Paula Payne Products Co. v. Johnson Publishing Co., Inc., 473 F.2d 901, 177 USPQ 76 (CCPA 1973).

In my view, as applied to hosiery, LONDON LEGS has a feminine connotation, whereas LONDON GUARDS is decidedly masculine. The majority, in its opinion, acknowledges that the goods and channels of trade are identical in this case. Furthermore, the majority agrees that LONDON as applied to hosiery is arbitrary. Under these circumstances, I believe that a purchaser would be likely to assume that these marks are used by the same manufacturer to identify separate lines of hosiery for women and men. In this case the differences in the marks, i.e., LEGS vis-a-vis GUARDS, merely distinguish women from men's hosiery, whereas the common word LONDON suggests the same source. Accordingly, I would reverse.

Court of Customs and Patent Appeals

In re MAYHEW

No. 8954 Decided Aug. 9, 1973

PATENTS

1. Specification — Sufficiency of disclosure (§62.7)

Description requirement of 35 U.S.C. 112 is satisfied by specification which clearly conveys to one skilled in the art the information that applicant invented subject matter claimed; however, even if specification describes invention as broadly as it is claimed, rejection based on first paragraph of section 112 might still lie since specification must also present enough information to enable any person skilled in the art to make and use claimed invention.

2. Pleading and practice in Patent Office — Rejections (§54.7)

Specification — Sufficiency of disclosure (§62.7)

When rejecting claims as being based on specification which does not adequately de-

scribe how to make or use invention. Patent Office must back up with acceptable evidence or reasoning its assertion that scope of enablement is not commensurate with scope of protection sought; a merely doubting statement is not enough.

Particular patents—Galvanizing

Mayhew, Hot-Dip Metal Coating Method and Apparatus, claims 17 to 20 of application allowed.

Appeal from Board of Appeals of the Patent Office.

Application for patent of John T. Mayhew, Serial No. 704,193, filed Nov. 7, 1967; Patent Office Group 160. From decision rejecting claims 12 and 16 to 20, applicant appeals. Appeal dismissed as to claims 12 and 16; reversed as to claims 17 to 20.

JAMES J. SHANLEY (RAYMOND N. BAKER of counsel) both of Washington, D. C., for appellant.

S. WM. COCHRAN (FRED E. MCKELVEY of counsel) for Commissioner of Patents.

Before MARKEY, Chief Judge, RICH, BALDWIN, and LANE, Associate Judges, and ALMOND, Senior Judge.

ALMOND, Senior Judge.

This is an appeal from the decision of the Patent Office Board of Appeals sustaining the examiner's rejection under 35 U.S.C. 112 of claims 12 and 16-20 of appellant's application [1] entitled "Hot-Dip Metal Coating Method and Apparatus." In his brief before this court, appellant has requested that the appeal be withdrawn with respect to claims 12 and 16. Accordingly, the appeal is dismissed as to those claims. We reverse as to claims 17-20.

Invention

Appellant regards his invention to be an improvement for "continuous-strip molten metal coating operations." The coating operation referred to is the process of galvanizing metal, usually but not necessarily steel. Basically this process involves advancing a preheated continuous strip of metal through a bath of molten metal. Zinc comprises greater than 98 percent of the bath and the molten metal is referred to in the art as "galvanizing spelter."

The strip to be coated is preheated for annealing and cleaning purposes and these require that the strip be heated to a temperature that exceeds the melting point of the spelter. Because of this pretreatment, the advancing metal strip provides all the heat that is required to maintain the spelter in a molten state.

As the rate at which the strip is advanced into the bath increases, the temperature of the spelter increases and it may become overheated. According to the specification, this affects the efficiency of the galvanizing process since the usual measures taken to remedy this situation are to stop or slow the introduction of metal strip into the bath. This, of course, reduces the amount of strip that can be coated in a given time.

The specification enumerates several problems that are said to arise when the spelter becomes overheated. These include thinning of the spelter, draping of the coating applied, and uneven, nonuniform coating of the metal surface. Appellant proposes to solve these problems by immersing cooling means in the bath. Therefore, as measured by claims 17 and 20, the broadest claims on appeal, appellant regards his invention to be:

17. Continuous-strip hot-dip metal coating apparatus comprising

(a) hot-dip coating means including a coating bath containing molten coating metal, means for introducing steel strip into and means for delivering steel strip from the coating bath,

(b) means for heating the steel strip before the steel strip is introduced into the coating bath to a temperature above the melting temperature of coating metal,

(c) *coolant means immersed in the coating bath for establishing heat exchange between a fluid coolant and the molten coating metal,*

(d) *means for providing a continuously flowing fluid coolant to the coolant means,* and

(e) means for controlling coating weight on the steel strip on delivery of the coated steel strip from the coating bath. [Emphasis ours.]

20. Continuous-strip method for galvanizing steel strip comprising the steps of

(a) preheating steel strip to a temperature substantially above a desired molten galvanizing bath temperature,

(b) adding heat to the molten galvanizing bath by introducing the preheated strip into the molten galvanizing bath while the strip is at a temperature substantially higher than the desired temperature of the galvanizing bath,

(c) *subjecting a portion of the bath to a cooling action by heat exchange of the portion of the bath with a coolant in heat exchange means immersed in the portion of the bath.* [Emphasis ours],

(d) moving the strip through the molten galvanizing bath,

[1] Serial No. 704,193 filed November 7, 1967.

(e) delivering the coated strip from the galvanizing bath, and

(f) controlling the coating weight of molten galvanize coating on the strip upon delivery of the steel strip from the molten galvanizing bath.

Other than the italicized portions, the elements of these claims are those known to the prior art. Claims 18 and 19 depend from claim 17 and add limitations not pertinent to our decision.

The Rejection

The rejection of these claims as variously expounded by the examiner and board grows out of the fact that appellant's specification sets forth but a single embodiment of the invention. This embodiment can best be seen by considering Fig. 2 of the specification set forth below:

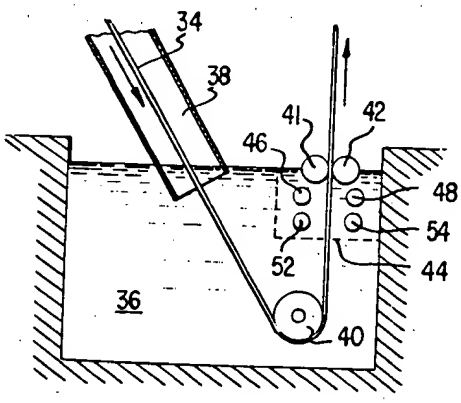

FIG. 2

In Fig. 2, preheated strip 34 is shown being introduced into bath 36. It passes around roll 40 and then travels upward through a zone of cooled spelter 44, defined by the broken lines. This zone is created by circulating a coolant through conduits 46, 48, 52 and 54 immersed in the bath. Rolls 41 and 42 are used to control the thickness of the coating applied to the metal.

No embodiments are specifically described in the specification wherein cooling means are located in any position but that adjacent to the point where the strip leaves the bath. Furthermore, the specification does not explicitly state that the cooling means can be located anywhere in the bath.

The examiner based his rejection under section 112 on the ground that the claims in question were "indefinite." The board agreed with the statutory basis for the rejection but not with the reasoning behind it, saying:

> We are unable to discover in the specification the manner in which appellant's apparatus and process can be operated when the controlled cooling is in any position other than adjacent the exit side of the bath. We agree fully with the examiner's position except that we do not consider the claims to be indefinite but rather to fail to find adequate support in the specification (35 U.S.C. 112, first paragraph).
>
> * * *
>
> In our opinion the examiner's rejection is clearly sustainable since the specification does not point out how appellant's method and apparatus can be made operative by cooling at any position other than that described in the specification.

Opinion

The precise manner in which the specification fails to support claims which would allow cooling to be done in a position other than the exit point is not altogether clear from the board's remarks. However, we think the board's opinion can be considered to raise the question of whether the specification satisfies the separate description and how to use requirements of section 112, first paragraph. In re Ahlbrecht, 58 CCPA 848, 435 F.2d 908, 168 USPQ 293 (1971).

The solicitor sets forth his position in the following terms:

> * * * appellant's specification does not contain a *description* commensurate with the scope of the invention covered by claims 17-20 which would *enable* one skilled in the art to use that invention as broadly claimed. [Emphasis in original.]

In the specification, it is stated:

> The present invention eliminates these problems by controlling the temperature of molten spelter which forms the final coating on the strip. A cooled spelter zone is located in the galvanizing bath so as to deliver strip which is coated with spelter at the desired temperature for effective coating control and to produce coating smoothness.

There is nothing in this statement that indicates that the cooling means had to be located adjacent the exit point for the strip. In fact, that appellant contemplated that the cooling means could be positioned elsewhere is evident from the following statement in the specification:

> There are other circumstances in hot-dip coating where the temperature of the bath must be above optimum coating temperature for the particular coating metal. Applicant has discovered that *under such circumstances* a superior product can be produced by *preferentially* lowering the

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In other words, the cooling means can be located adjacent the exit point when it is desired, for reasons not specified, to maintain the rest of the bath at a temperature above the optimum for coating purposes. Thus the placement of the cooling means at this point is a matter of choice or convenience rather than a requirement inherent in the process.

[1] We think these passages from the specification are sufficient to clearly convey to one skilled in the art the information that applicant has invented the subject matter claimed and this satisfies the description requirement of section 112. In re Ruschig, 54 CCPA 1551, 379 F.2d 990, 154 USPQ 118 (1967).

However, as the solicitor recognizes, even if the specification describes the invention as broadly as it is claimed, a rejection based on the first paragraph of section 112 might still lie since the specification must also present enough information "to enable any person skilled in the art * * * to make and use * * *" the invention as claimed. In re Moore, 58 CCPA 1042, 439 F.2d 1232, 169 USPQ 236; In re Ahlbrecht, supra.

Even though the specification does not actually describe an apparatus having cooling means located elsewhere than at the exit point, appellant argues that, given his disclosure, one skilled in the art would be able to locate the cooling means elsewhere in the bath than adjacent the exit point and achieve the desired result of reducing the temperature of the spelter at that point. For example, according to appellant the cooling means can be located at the *entry* point for the strip. This could be used to reduce the temperature of the strip so that it did not overheat the bath in the first place. Alternatively, he points out that cooling means located anywhere in the bath will affect the bath as a whole.

The board was not persuaded since it felt that the claims did not preclude having as a part of the apparatus or using as a part of the process a source of heat in addition to the heated strip. Presumably it felt that supplemental heating might result in hot spelter at the exit point unless the cooling means were located there, at least this is a rationalization offered by the solicitor in support of the board's position.

[2] Appellant argues that this is an illogical construction of the claims since one skilled in the art attempting to deal with the problem of overheated spelter caused by the strip is not going to be adding heat from another source. We agree. In our view, the Patent Office has not backed up with acceptable evidence or reasoning its assertion that the scope of enablement is not commensurate with the scope of protection sought. This it must do when rejecting claims as being based on a specification which does not adequately describe how to make or use the invention. In re Marzocchi, 58 CCPA 1069, 439 F.2d 220, 169 USPQ 367 (1971).

We believe the rejection could have been proper only if evidence or reasoning had been advanced which would indicate that locating the cooling means at a point other than adjacent the exit point for the strip would not achieve the desired result of lowering the temperature of the spelter at that point. A statement merely doubting this can be done is not enough.

For the foregoing reasons the decision of the board is *reversed* as to claims 17-20 and the appeal is *dismissed* as to claims 12 and 16.

Court of Customs and Patent Appeals

PACQUIN-LESTER COMPANY v. CHARMACEUTICALS, INC.

No. 8962 Decided Aug. 9, 1973

TRADEMARKS

1. Identity and similarity — Words — Not similar (§67.4111)

"Silk" for face cream does not so resemble "Silk 'N Satin" for beauty lotion for hands and skin and for bath oil that confusion is likely.

Appeal from Trademark Trial and Appeal Board of the Patent Office, 168 USPQ 543.

Trademark opposition No. 49,507 by Pacquin-Lester Company against Charmaceuticals, Inc., application, Serial No. 305,267, filed Aug. 16, 1968. From decision dismissing opposition, opposer appeals. Affirmed.

OLIVER P. HOWES, JR., and NIMS, HALLIDAY, WHITMAN, HOWES, COLLISON & ISNER, both of New York, N. Y., for appellant.

DONALD A. KAUL (ROYLANCE, ABRAMS, BERDO & KAUL of counsel) both of Washington, D. C., for appellee.

SHELDON I. COHEN, Washington, D. C., amicus curiae.

Before MARKEY, Chief Judge, RICH, BALDWIN, and LANE, Associate Judges, and ALMOND, Senior Judge.

Rod, Inv. No. 337-TA-89, Temporary Relief Proceeding, at 12 (I.T.C. 1980); Kearney & Trecker Corporation v. Goddings & Lewis, Inc., 306 F.Supp. 189, 194, 164 USPQ 173, 177 (E.D.Wisc. 1969); Hansen v. Siebring, 142 USPQ 465, 472 (N.D.Iowa 1964); Autokraft Box Corporation v. Nu-Box Corporation, 16 F.Supp. 794, 797, 31 USPQ 200, 202 (M.D.Pa. 1936). In the instant case, the Woods surveying device is "reasonably capable" of infringement because of the undeniable ease of removing the nodules and the possibility if not likelihood that at least some distributors will in fact remove the nodules.[1]

The facts of this case closely parallel those of Eureka Tool Co. v. Wire Rope Appliance Co., 265 Fed. 673 (8th Cir. 1920). That case involved a contempt proceeding to enforce a prior judgment that the defendant had infringed plaintiff's patent. The patent concerned a swivel jar socket used in oil and gas drilling. The socket had two beneficial results: (1) when the drill struck bottom, a core in the socket fell slightly to permit the drill line to turn and its operation to continue, and (2) when the drill line was lifted, the core rose sharply hitting the top of the socket and thereby loosening the drill point. After the defendant had been found to infringe this patent, he modified his drill by inserting a pin through the socket and the edge of the core so as to prevent movement of the core. Circuit Judge Stone pointed out that the pins could be readily removed by its users, or even dislodged through use. Such a mere "colorable change" did not alter the infringing nature of the defendant's machine. 265 Fed., at 674.

[4] Woods also contends that at some point in the future, it may manufacture a surveying device, unlike the one submitted to the Commission for this Advisory Opinion, on which the nodules are not merely attached to, but are an integral part of, the target surface. According to Woods, these nodules would be permanently affixed to the target surface, rendering the surveying device incapable of infringing use. However, without physical samples of this anticipated new design of surveying device, we cannot determine whether it would be subject to our exclusion order. It is conceivable that the nodules, although an integral part of the target surface, could be readily sliced off, reopening the path of the cord guide means. It is also possible that a slot could be cut through the nodules themselves, again reopening the cord guide means. Since Woods has not submitted a sample of its further modified surveying device, we cannot determine the commercial feasibility of converting to an infringing product and, therefore, cannot advise Woods whether that device is within the scope of the Commission's exclusion order.

Conclusion

[5] Given the commercial feasibility of restoring the Woods' modified surveying device to its original infringing state, we conclude that the modified device is infringing because it is capable of infringing the '205 patent. We therefore advise Woods that its modified surveying device is covered by the exclusion order currently in force.

[1] The instant case is distinguishable from the Brinkman case cited by Woods. The patent in that case concerned a double-brim hat in which the edges were not sewn together. The allegedly infringing hat was also double-brimmed, but the edges were sewn together. Although the court found no infringement, it did so only because of its utter disbelief that any consumer would go to the trouble of meticulously tearing out the sewing to convert the defendant's hat into an infringing article. 21 F.2d, at 611.

Patent and Trademark Office Board of Appeals

Ex parte Marsili, Rossetti, and Pasqualucci

Opinion dated Sept. 27, 1979

Patent No. 4,226,765 issued Oct. 7, 1980

PATENTS

1. Pleading and practice in Patent Office — In general (§54.1)

Data in patent application as filed bears usual presumption of correctness.

2. Amendments to patent application — New matter (§13.5)

Amendment changing structural formulae originally assigned to compounds to new structural formulae, that products described, exemplified, and claimed by applicants inherently had and now have, does not constitute new matter.

3. Patent grant — Intent of patent laws (§50.15)

PTO exists to carry out job assigned it by Congress, pursuant to Constitution, Article I, Section 8, of issuing patents which promote progress of science and useful arts.

4. Amendments to patent application — New matter (§13.5)

Refusing to correct structural formula of applicant's claimed compounds that have been found patentable by Examiner would lead to absurdity of issuing patent that teaches public, in its specification, wrong scientific formula for new products.

Particular patents — Antibiotic Compounds

Marsili, Rossetti, and Pasqualucci, Novel Rifamycin Compounds of High Antibiotic Activity, rejection of claim 1, reversed.

Appeal from Art Unit 121.

Application for patent of Leonardo Marsili, Vittorio Rosetti, and Carmine Pasqualucci, Serial No. 685,624, filed May 12, 1976. From decision rejecting claim 1, applicant appeals (Appeal No. 378-66). Reversed.

Norman F. Oblon, Oblon, Fisher, Spivak, McClelland & Maier, and Milton Sterman, all of Arlington, Va., for appellants.

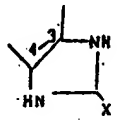
Before Magil and Sturtevant, Examiners-in-Chief, and Rzucidlo, Acting Examiner-in-Chief.

Sturtevant, Examiner-in-Chief.

Appeal has been taken from the final rejection of only one claim, the generic product claim 1. A copy of this claim is attached as an Appendix hereto. All the remaining claims in the application have been allowed: claims 2, 3 and 4 directed to the method of making the compounds of claim 1, and claim 7 which defines the new compounds in product-by-process terms.

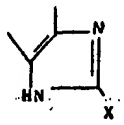
The sole issue before us is whether or not claim 1 contains new matter, which is prohibited by 35 USC 132, final sentence. The disputed "new matter" involves a change in the structural formulae for the product in the specification and in claim 1. The precise nature of this change is well expressed by the following excerpt from Appellants' Brief (page 4):

* * *appellants initially considered that the compounds they prepared contained the following imidazoline ring across the 3, 4-position of the Rifamycin -SV type structure



see formula (I) as initially presented on page 1 of the specification (X is a defined substituent which may be hydrogen).

Further, more refined, analytic investigation showed that the ring in fact was and is the imidazole ring, which is the stable aromatic structure:



An imidazoline is a dihydro-imidazole."

After a final rejection on other grounds, not now pertinent, Appellants filed an amendment to make the above changes. The amendment was at first refused entry as raising the issue of "new matter", the Examiner citing Ex parte Fox, 128 USPQ 157 (Bd. 1957). Subsequently an amendment making the changes was again proffered together with a declaration by one of the Appellants providing both analytical data and literature references to support the propriety and scientific desirability of the changes. These papers the Examiner entered "in order to test the question of new matter before the Board of Appeals" (Paper No. 10, page 2). We congratulate the Examiner for taking this action, which brings this interesting question properly before us.

In the briefing of this issue a number of a cases have been cited by counsel and the Examiner, besides the Fox case. After careful review of them and other case law, as well as the entire record, we conclude that the Examiner's rejection must be reversed. We do not believe that either the Fox case or another Board of Appeals case cited by him (Ex parte Davisson & Finlay, 133 USPQ 400; 1958) is in point. In both of those cases it was held that the original description of the claimed product was insufficient to identify it or distinguish it patentably from the prior art compounds. In other words, the product could only be distinguished from others in terms of the process of making it. Here we have the question of *changing* the original description of a product which is admittedly patentable and was described by sufficient characteristics to distinguish it. We do not here have the question of *adding* characteristics not previously mentioned.

Instead, we consider that a case cited by both Appellants and the Examiner, decided some years ago by the Court of Customs and Patent Appeals, and frequently cited and followed since, remains a leading case on the question and dictates our reversal of the Examiner's decision. This case is In re Nathan et al., 51 CCPA 1059, 328 F.2d 1005, 140

USPQ 601 (1964) *. There the original disclosure merely identified certain steroid derivatives as containing a "2-halo" substituent and the issue was whether a subsequent amendment to define the substituent as alpha-oriented was new matter. There also, as here, Appellants submitted a showing under Rule 132 (now 37 CFR 1.132) to support the propriety of the change and to show that the alpha-orientation of the halogen was an *inherent* characteristic of the claimed compounds. The Court reversed the PTO, holding that the change had not introduced new matter but was "merely a statement of an inherent property of the steroids as disclosed in appellants' original disclosure" (51 CCPA 1062).

Two more recent CCPA decisions, which cite with approval the Nathan case, are in our opinion very much in point because of the closeness of their factual situations with the facts of the case now before us. These are In re Sulkowski, 487 F.2d 920, 180 USPQ 46 (CCPA 1973) and Spero v. Ringold, 54 CCPA 1407, 377 F.2d 652, 153 USPQ 726 (1967). In the Sulkowski case the parent application had identified the structure of the claimed compound as "3, 4-dihydro-6-phenyl-2, 5-benzodiazocin-1(2H)-one," whereas in the application on appeal it was identified as an isomer of that compound, namely "9B-phenyl-1,2,3,9B-tetrahydro-5H-imidazo [2, 1-a] iso-indol-5-one." The Examiner had refused to accord Appellant the benefit of the filing date of the parent application because the error in the structure there given would not have been obvious to one of ordinary skill in the art. The Board of Appeals had affirmed the Examiner's decision but indicated that, if there had been timely filed proof that the claimed products inherently had the corrected formula, the Examiner's rejection would have been reversible. Citing Nathan and other decisions to the same effect, the CCPA remanded the Sulkowski case to the Board for consideration of such proof of inherency.

In Spero v. Ringold, an interference case also involving the right of one party to rely on the date of a parent application, in the Court's own words "* * * we have the anomalous situation presented that while the inventor may not have known the configuration of the compound produced by his process, an expert in the art testified that the compound necessarily has the predictable configuration which meets the count" (54 CCPA 1410). The Court, again on the basis of persuasive evidence that the product inherently had the corrected configuration, reversed the PTO and accorded the parent filing date to Spero. See also In re Magerlein et al., 52 CCPA 1637, 346 F.2d 609, 145 USPQ 683 (1965) and In re Fisher, 57 CCPA 1099, 427 F.2d 833, 166 USPQ 18 (1970), both also holding that a structural formula may be corrected without violation of 35 USC 132, if "there is sufficient evidence in the record to show the (proposed structure) to be an inherent characteristic of the subject matter so identified" (In re Magerlein et al., 52 CCPA 1640).

[1] In the record now before us the declaration by one of the Appellants provides excerpts from the "specialized literature" demonstrating, in the words of the declarant, "that the structural formulae originally assigned to the compounds * * * had to be held uncorrect (sic)" (Paper No. 9, paragraph 9). The declarant also describes subsequent research by CMR spectrometry and provides the supporting chemical and physical data which, he avers, "have confirmed that the original structural formulae determination was in error" and support the accuracy of the formula correction (Paper No. 9 at paragraphs 11-13). We find this evidence persuasive and consider that the usual presumption of correctness of the data in an application as filed has in this instance been overcome, as to the structural formula of the claimed compounds, by the Marsili declaration evidence.

[2] We conclude from this evidence, therefore, that the products described, exemplified and claimed by Appellants inherently had and have now the structure given in the amendment in question. Consequently, the changes made in this amendment do not constitute new matter.

In conclusion, we note a persuasive and logical point in Appellants' Reply Brief (page 2):

> "No one derives any benefit from an erroneous statement — neither applicants nor the public."

[3,4] Also compelling in its logic is the observation by the CCPA in still another decision involving proper identification of new compounds (Petisi et al. v. Rennhard et al., 53 CCPA 1452, 363 F.2d 903, 150 USPQ 669; 1966):

> "The *product*, not the formula or name, is the invention," (53 CCPA 1457)

The PTO exists to carry out the job assigned it by Congress, pursuant to the Constitution (Article I, Section 8), i.e. to issue patents which "promote the Progress of Science and useful Arts." To refuse correction of the

* For the sake of completeness note also a much earlier leading case on this question, also frequently cited: Riester v. Kendall, 34 CCPA 859, 159 F.2d 732, 72 USPQ 481 (1947)

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structural formula of Appellants' claimed compounds, which have been found patentable by the Examiner, would lead to the absurdity of issuing a patent which teaches the public in its specification the wrong scientific formula for the new products.

The Examiner's decision is reversed.

[Appendix omitted].

Patent and Trademark Office Board of Patent Interferences

Jacobs
v. Lawson and Kay

Opinion dated Apr. 19, 1982

PATENTS

1. Interference — Motions (§41.50)

Interference — Practice (§41.60)

Oppositions to motions other than those specified in Rule 231 are required to be filed within 20 days from date of motion's service; fact that parties were involved in settlement discussions is not valid excuse for failing to timely file opposition to motion; failure to timely oppose motion is tantamount to tacit agreement under Patent Rule 287(e).

2. Applications for patent — Continuing (§15.3)

Interference — Reduction to practice — Constructive reduction (§41.755)

Party who proves that disclosure in his earlier application is sufficient to comply with first paragraph of 35 U.S.C. 112 is entitled to benefit of his earlier filed parent application.

3. Applications for patent — Continuing (§15.3)

Interference — Reduction to practice — Constructive reduction (§41.755)

Party may be accorded benefit of prior application with respect to generic count if prior application discloses single species or embodiment within genus in such manner as to comply with first paragraph of 35 U.S.C. 112.

4. Interference — Reduction to practice — Constructive reduction (§41.755)

Specification — Sufficiency of disclosure (§62.7)

Invention claimed in later application does not have to be described in parent in ipsis verbis in order to satisfy description requirement of Section 112.

5. Interference — Burden of proof — In general (§41.051)

Junior party who is accorded benefit of his parent application that was co-pending with opposer's patent application has burden of proving prior invention by preponderance of evidence.

6. Interference — Reduction to practice — In general (§41.751)

Reduction to practice based on composition that includes all ingredients specified by count in required amounts meets all limitations of count that is drawn to composition of matter.

7. Interference — Reduction to practice — In general (§41.751)

Party need not use verbatim description of count in order to support reduction to practice.

8. Interference — Burden of proof — In general (§41.051)

Interference — Priority (§41.70)

Under circumstances in which party's additional research activities between its actual reduction to practice and filing date 16 months later is not so unreasonable excuse as to raise inference of suppression, burden of proof falls on opposer to affirmatively prove abandonment, suppression, or concealment.

Particular patents — Smoke Retardants

Jacobs, application, awarded priority over 3,957,723, Lawson and Kay, Flame and Smoke Retardants for Polyvinyl Chloride.

Patent interference No. 99,770, between Martin I. Jacobs, application, Serial No. 771,872, filed Feb. 25, 1977, and David Francis Lawson and Edward Leo Kay, Patent No. 3,957,723, issued May 18, 1976, on application, Serial No. 591,254, filed June 27, 1975. Priority awarded to party Jacobs.

Anthony Lagani, Jr., New York, N.Y., for party Jacobs.

Leo A. Rosetta, Jesse B. Grove, Jr., J. Ernest Kenney, Eugene Mar, Richard E. Fichter, and Charles R. Wolfe, Jr., all of Arlington, Va., and James F. Mudd, David A. Stein, Thomas T. Gordon, and Peter F. Casella, all of Niagara Falls, N.Y. for party Lawson.